CHAPTER 5
ACUTE CARE FACILITIES AND SERVICES

Chapter 5 Acute Care

Mississippi had 96 non-federal medical/surgical hospitals in FY 2013, with a total of 10,948 licensed acute care beds (plus 286 beds held in abeyance by the MSDH). This total includes one OB/GYN hospital but excludes one rehabilitation hospital with acute care beds and Delta Regional Medical Center-West Campus which is licensed as an acute care hospital but is used primarily for other purposes. This total also excludes long term acute care (LTAC), rehabilitation, psychiatric, chemical dependency, and other special purpose beds. In addition, numerous facilities provide specific health care services on an outpatient basis. Some of these facilities are freestanding; others are closely affiliated with hospitals. Such facilities offer an increasingly wider range of services, many of which were once available only in inpatient acute care settings. Examples include diagnostic imaging, therapeutic radiation, and ambulatory surgery.

100 General Medical/Surgical Hospitals

The 96 acute care medical/surgical hospitals reported 9,753 beds set up and staffed during 2013, or 89.08 percent of the total licensed bed capacity. Based on beds set up and staffed, the hospitals experienced an overall occupancy rate of 45.74 percent and an average length of stay of 4.67 days. When calculating the occupancy rate using total licensed bed capacity, the overall occupancy rate drops to 40.74 percent. Using these statistics and 2020 projected population totals, Mississippi had a licensed bed capacity to population ratio of 3.47 per 1,000 and an occupied bed to population ratio of 1.46 per 1,000. Table 5-1 shows the licensed Mississippi hospital beds by service areas.

These statistics indicate an average daily census in Mississippi hospitals of 4,460.91, leaving approximately 6,487.09 unused licensed beds on any given day. Seventy-five of the state's hospitals reported occupancy rates of less than 40 percent during FY 2013.

Mississippi requires Certificate of Need (CON) review for all projects that increase the bed complement of a health care facility or exceed a capital expenditure threshold of $2 million. The law requires CON review regardless of capital expenditure for the construction, development, or other establishment of a new health care facility, including a replacement facility; the relocation of a health care facility or any portion of the facility which does not involve a capital expenditure and is more than 5,280 feet from the main entrance of the facility; and a change of ownership of an existing health care facility, unless the MSDH receives proper notification at least 30 days in advance. A health care facility that has ceased to treat patients for a period of 60 months or more must receive CON approval prior to reopening. A CON is required for major medical equipment purchase if the capital expenditure exceeds $1.5 million and is not a replacement of existing medical equipment.

A statewide glut of licensed acute care beds complicates planning for community hospital services. There are far more hospital beds than needed. The average use of licensed beds has been less than 50 percent in recent years. With few exceptions, the surplus is statewide. The continued presence of surplus hospital beds in all planning districts, and in nearly all counties with acute care hospitals, raises a number of basic planning questions:

- Does the “carrying cost” of maintaining unused beds raise operating cost unnecessarily?
- Do the surpluses, and any associated economic burdens, retard the introduction of new and more cost effective practices and services?
- Do existing services providers maintain unwarranted surpluses to shield themselves from competition, as argued by some potential competitors?

- Should the space allocated to surplus beds be converted to other uses, particularly if doing so would avoid construction of new space, or facilities, to accommodate growing outpatient caseloads?
- Do the large surpluses mask need for additional services and capacity in some regions and reduce the sensitivity and responsiveness of planners and regulators to these legitimate community needs?
- Do the continuing surpluses, and the view of them by stakeholders and other interested parties, create an environment that invites policy intervention by legislators and other responsible parties?

These questions are unusually difficult to answer definitively. That they arise not infrequently suggest the importance of reducing excess capacity where it is possible to do so and is not likely to result in problematic consequences. The Department urges each hospital to voluntarily reduce the licensed bed capacity to equal its average daily census plus a confidence factor that will assure that an unused hospital bed will be available on any given day.

Table 5-1
Licensed Short-Term Acute Care Hospital Beds by Service Area
FY 2013

Facility	Licensed Beds	Abeyance Beds	Average Daily Census	Occupancy Rate	Average Length of Stay
General Hospital Service Area 1	**562**	**18**	**238.50**	**42.55**	**4.57**
Alliance Healthcare System - Holly Springs	40	0	8.41	21.03	5.72
Baptist Memorial Hospital - DeSoto	309	0	192.44	62.28	4.55
Methodist Healthcare Olive Branch Hospital*	60	0	0.65	1.08	3.06
North Oak Regional Medical Center - Senatobia	76	0	13.40	17.63	4.99
Tri-Lakes Medical Center - Batesville	77	18	24.26	31.50	4.22
General Hospital Service Area 2	**1,095**	**25**	**489.20**	**44.68**	**4.96**
Baptist Memorial Hospital - Booneville	114	0	25.23	22.13	6.20
Baptist Memorial Hospital - Union County	153	0	30.55	19.97	3.06
Iuka Hospital - Iuka	48	0	5.75	11.99	3.11
Magnolia Regional Health Center - Corinth	181	0	86.41	47.74	4.43
North Miss Medical Center - Tupelo	554	0	333.31	60.16	5.46
Pontotoc Health Services - Pontotoc	25	0	2.71	10.83	3.08
Tippah County Hospital - Ripley	20	25	5.24	26.19	3.75
General Hospital Service Area 3	**896**	**0**	**283.90**	**31.69**	**4.38**
Bolivar Medical Center - Cleveland	165	0	39.37	23.86	4.11
Delta Regional Medical Center (Main) - Greenville	227	0	95.08	41.89	4.80
Greenwood Leflore Hospital - Greenwood	188	0	70.11	37.29	4.42
North Sunflower County Hospital	35	0	13.62	38.91	5.59
Northwest Miss Regional Medical Center-Clarksdale	181	0	45.72	25.26	3.99
Patient's Choice Medical Center of Humphreys County*	0	0	0.00	0	0
Quitman County Hospital - Marks	33	0	8.93	27.07	5.55
South Sunflower County Hospital	49	0	9.06	18.48	2.65
Tallahatchie General Hospital & ECF	18	0	2.02	11.20	3.16
General Hospital Service Area 4	**1,244**	**24**	**367.89**	**29.57**	**4.37**
Baptist Memorial Hospital - North Miss - Oxford	204	0	97.97	48.03	4.67
Baptist Memorial Hospital-Golden Triangle	285	0	83.09	29.15	4.12
Calhoun Health Services - Calhoun City	30	0	6.17	20.57	5.96
Gilmore Memorial Hospital, Inc.	95	0	30.77	32.39	3.92
Grenada Lake Medical Center	156	0	32.94	21.12	4.11
Kilmichael Hospital	19	0	1.23	6.49	3.60
North Mississippi Medical Center-West Point	60	0	20.87	34.78	3.68
Noxubee General Critical Access Hospital	25	0	7.82	31.29	3.51
Oktibbeha County Hospital Regional Medical Center	96	0	27.57	28.72	3.98
Pioneer Community Hospital of Aberdeen	35	0	7.56	21.60	6.27
Pioneer Community Hospital of Choctaw	25	0	3.92	15.66	5.50
Trace Regional Hospital	84	0	10.13	12.06	6.45
Tyler Holmes Memorial Hospital	25	0	5.47	21.90	3.43
Webster Health Services	38	0	16.50	43.42	5.05
Winston Medical Center	41	24	12.93	31.53	7.17
Yalobusha General Hospital	26	0	2.95	11.35	3.46

Table 5-1 (continued)
Licensed Short-Term Acute Care Hospital Beds by Service Area
FY 2013

Facilities	Licensed Beds	Abeyance Beds	Average Daily Census	Occupancy Rate	Average Length of Stay
General Hospital Service Area 5	**3,167**	**56**	**1,515.17**	**47.84**	**5.02**
Baptist Medical Center Leake	25	0	6.03	24.12	3.39
Central Mississippi Medical Center	415	0	74.74	18.01	4.73
Claiborne County Hospital	32	0	10.38	32.44	5.83
Crossgates River Oaks Hospital	149	0	54.49	36.57	5.61
Hardy Wilson Memorial Hospital	25	10	15.28	61.13	7.24
Holmes County Hospital and Clinics	25	10	1.87	7.46	2.07
King's Daughters Hospital-Yazoo City	25	0	8.63	34.53	3.80
Madison River Oaks Medical Center	67	0	16.96	25.31	3.21
Magee General Hospital	64	0	16.75	26.16	4.27
Mississippi Baptist Medical Center	541	0	292.78	54.12	5.52
Montfort Jones Memorial Hospital	35	36	16.48	47.08	4.73
Patients' Choice Medical Center of Smith County	29	0	6.28	21.66	14.61
River Oaks Hospital	160	0	56.76	35.48	3.63
River Region Health System	261	0	106.13	40.66	5.30
S.E. Lackey Critical Access Hospital	35	0	23.48	67.08	4.99
Scott Regional Hospital	25	0	5.18	20.71	3.29
Sharkey - Issaquena Community Hospital	29	0	7.52	25.94	5.01
Simpson General Hospital	35	0	10.57	30.21	5.76
St. Dominic-Jackson Memorial Hospital	417	0	311.93	74.80	4.20
University Hospital & Health System	664	0	455.75	68.64	6.16
Woman's Hospital at River Oaks	109	0	17.16	15.75	3.36
General Hospital Service Area 6	**869**	**90**	**299.00**	**34.41**	**4.87**
Alliance Health Center	78	0	4.13	5.29	12.78
Alliance Laird Hospital - Union	25	0	3.36	13.46	2.88
Anderson Regional Medical Center - Meridian	260	71	141.87	54.57	5.03
Anderson Regional Medical Center South*	49	0	5.51	11.24	12.47
H.C. Watkins Memorial Hospital, Inc. - Quitman	25	0	2.78	11.10	3.90
John C. Stennis Memorial Hospital	25	0	1.25	5.02	3.15
Neshoba General Hospital - Philadelphia	82	0	17.19	20.97	4.11
Pioneer Community Hospital of Newton	30	19	10.14	33.79	5.00
Rush Foundation Hospital - Meridian	215	0	87.10	40.51	4.67
Wayne General Hospital - Waynesboro	80	0	25.66	32.08	4.80
General Hospital Service Area 7	**719**	**0**	**252.17**	**35.07**	**4.11**
Beacham Memorial Hospital	37	0	12.44	33.62	6.81
Field Memorial Community Hospital	25	0	4.68	18.72	3.36
Franklin County Memorial Hospital	35	0	7.45	21.28	7.72
Jefferson County Hospital	30	0	17.98	59.94	10.27
King's Daughters Medical Center - Brookhaven	122	0	37.22	30.51	2.84
Lawrence County Hospital	25	0	3.83	15.31	3.49
Natchez Community Hospital	101	0	44.04	43.61	4.37
Natchez Regional Medical Center	159	0	33.26	20.92	4.83
Southwest Miss Regional Medical Center	160	0	88.31	55.20	3.75
Walthall County General Hospital	25	0	2.96	11.84	3.16

Table 5-1 (continued)
Licensed Short-Term Acute Care Hospital Beds by Service Area
FY 2013

Facility	Licensed Beds	Abeyance Beds	Average Daily Census	Occupancy Rate	Average Length of Stay
General Hospital Service Area 8	**1,046**	**38**	**495.93**	**47.41**	**4.61**
Covington County Hospital	35	0	9.19	26.27	5.63
Forrest General Hospital	400	0	265.64	66.41	4.43
Greene County Hospital	3	0	0.27	9.04	4.95
Jasper General Hospital	16	0	0.09	0.58	6.80
Jeff Davis Community Hospital - Prentiss	35	0	7.29	20.83	7.13
Marion General Hospital	49	30	9.63	19.65	4.23
Perry County General Hospital	22	8	2.09	9.51	3.47
South Central Regional Medical Center	275	0	91.90	33.42	4.66
Wesley Medical Center	211	0	109.82	52.05	4.93
General Hospital Service Area 9	**1,350**	35	**518.50**	**38.41**	**4.22**
Biloxi Regional Medical Center*	153	0	71.10	46.47	4.57
Garden Park Medical Center	130	0	45.48	34.99	4.07
George County Hospital	48	0	13.70	28.53	3.53
Hancock Medical Center	86	0	17.14	19.93	3.30
Highland Community Hospital - Picayune	60	35	17.59	29.32	3.11
Memorial Hospital at Gulfport	303	0	149.10	49.21	4.50
Ocean Springs Hospital	136	0	101.90	74.93	4.43
Pearl River Hospital & Nursing Home - Poplarville	24	0	1.23	5.14	2.91
Singing River Hospital	385	0	97.92	25.43	4.11
Stone County Hospital	25	0	3.33	13.30	2.89
TOTAL	**10,948**	**286**	**4,460.91**	**40.75**	**4.67**

Note: *Methodist Health Care Olive Branch opened in FY 2013.
*Patients Choice Medical Center of Humphreys County closed in FY 2013.
* Riley Memorial Hospital –Meridian changed their name to Anderson Regional Medical Center-South.

Occupancy rate is calculated based on total number of licensed beds and excludes beds in abeyance. As a result, the occupancy rate may not equal the occupancy rate published in the *2013 Mississippi Hospital Report.*

Source: Application for Renewal of Hospital License for Calendar Year 2014 and FY 2013 Annual Hospital Report; Division of Health Planning and Resource Development, Office of Health Policy and Planning

101 Hospital Outpatient Services

The following table shows the number of visits to hospital emergency rooms and hospital outpatient clinics in FY 2013. These statistics represent an increase over 2012's total of 4,862,405 visits to hospital emergency rooms and outpatient clinics.

Table 5-2
Selected Data for Hospital-Based or Affiliated Outpatient Clinics
by General Hospital Service Area
FY 2013

General Hospital Service Area	Number with Emergency Department	Number of Emergency Room Visits	Number of Hospitals with Organized Outpatient	Number of Outpatient Clinic Visits	Total Outpatient Visits
Mississippi	**87**	**1,829,621**	**80**	**3,047,718**	**4,877,339**
1	5	93,074	5	49,966	143,040
2	7	183,518	7	324,675	508,193
3	8	147,599	6	226,228	373,827
4	14	226,534	13	413,246	639,780
5	19	429,815	20	671,353	1,101,168
6	8	107,138	7	149,759	256,897
7	9	124,762	7	147,034	271,796
8	8	190,551	6	187,829	378,380
9	9	326,630	9	877,628	1,204,258

Source: Applications for Renewal of Hospital License for Calendar Year 2014 and FY 2013 Annual Hospital Report, Mississippi State Department of Health

ACUTE CARE

102 Certificate of Need Criteria and Standards for General Acute Care Facilities

Note: Should the Mississippi State Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi State Department of Health.

102.01 Policy Statement Regarding Certificate of Need Applications for General Acute Care Hospitals and General Acute Care Beds

1. Acute Care Hospital Need Methodology: With the exception of psychiatric, chemical dependency, and rehabilitation hospitals, the Mississippi State Department of Health (MSDH) will use the following methodologies to project the need for general acute care hospitals:

   a. **Counties Without a Hospital** - The MSDH shall determine hospital need by multiplying the state's average annual occupied beds (1.41 in FY 2013) per 1,000 population by the estimated 2020 county population to determine the number of beds the population could utilize. A hospital with a maximum of 100 beds may be considered for approval if: (a) the number of beds needed is 100 or more; (b) there is strong community support for a hospital; and (c) a hospital can be determined to be economically feasible.

   b. **Counties With Existing Hospitals** - The MSDH shall use the following formula to determine the need for an additional hospital in a county with an existing hospital:

      $$\mathbf{ADC + K(}\sqrt{ADC}\mathbf{)}$$

      Where: ADC = Average Daily Census

      K = Confidence Factor of 2.57

      The formula is calculated for each facility within a given General Hospital Service Area (GHSA); then beds available and beds needed under the statistical application of the formula are totaled and subtracted to determine bed need or excess within each GHSA. Map 5-1 delineates the GHSAs. The MSDH may consider approval of a hospital with a maximum of 100 beds if: (a) the number of beds needed is 100 or more; (b) there is strong community support for a hospital; and (c) a hospital can be determined to be economically feasible.

   c. **Counties Located in an Underdeveloped General Hospital Service Area and With a Rapidly Growing Population -** Notwithstanding the need formula in b above, any county with a population in excess of 140,000 people; projecting a population growth rate in excess of ten (10) percent over the next ten (10) year period; and its General Hospital Service Area does not presently exceed a factor of three (beds per 1,000 population); may

be considered for a new acute care hospital not to exceed one hundred (100) beds, in that county.

Further, any person proposing a new hospital under criterion 1c above must meet the following conditions:

1) Provide an amount of indigent care in excess of the average of the hospitals in the General Hospital Service Area as determined by the State Health Officer;

2) Provide an amount of Medicaid care in excess of the average of the hospitals in the General Hospital Service Area as determined by the State Health Officer; and

3) If the proposed hospital will be located in a county adjacent to a county or counties without a hospital, the applicant must establish outpatient services in the adjacent county or counties without a hospital;

4) Fully participate in the Trauma Care System at a level to be determined by the Department for a reasonable number of years to be determined by the State Health Officer. Fully participate means play in the Trauma Care System as provided in the Mississippi Trauma Care System Regulations and the new hospital shall not choose or elect to pay a fee not to participate or participate at a level lower than the level specified in the CON; and

5) The new hospital must also participate as a network provider in the State and School Employees' Health Insurance Plan as defined in Mississippi Code Section 25-15-3 and 25-15-9.

2. Need in Counties Without a Hospital: Six counties in Mississippi do not have a hospital: Amite, Benton, Carroll, Issaquena, Itawamba, and Tunica. Most of these counties do not have a sufficient population base to indicate a potential need for the establishment of a hospital, and all appear to receive sufficient inpatient acute care services from hospitals in adjoining counties.

3. Expedited Review: The MSDH may consider an expedited review for Certificate of Need applications that address only license code deficiencies, project cost overruns, and relocation of facilities or services.

4. Capital Expenditure: For the purposes of Certificate of Need review, transactions which are separated in time but planned to be undertaken within 12 months of each other and which are components of an overall long-range plan to meet patient care objectives shall be reviewed in their entirety without regard to their timing. For the purposes of this policy, the governing board of the facility must have duly adopted the long-range plan at least 12 months prior to the submission of the CON application.

5. No health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need.

6. If a health care facility has voluntarily delicensed some of its existing bed complement, it may later relicense some or all of its delicensed beds without the necessity of having to acquire a Certificate of Need. The Department of Health shall maintain a record of the

delicensing health care facility and its voluntarily delicensed beds and continue counting those beds as part of the state's total bed count for health care planning purposes.

7. A health care facility that has ceased to operate for a period of 60 months or more shall require a Certificate of Need prior to reopening.

102.02 Certificate of Need Criteria and Standards for the Establishment of a General Acute Care Hospital

The Mississippi State Department of Health (MSDH) will review applications for a Certificate of Need to construct, develop, or otherwise establish a new hospital under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the MSDH; and the specific criteria and standards listed below.

1. **Need Criterion: The applicant shall document a need for a general acute care hospital using the appropriate need methodology as presented in this section of the *Plan.* In addition, the applicant must meet the other conditions set forth in the need methodology**.

2. The application shall document that the applicant will provide a "reasonable amount" of indigent/charity care as described in Chapter 1 of this *Plan*.

102.03 Certificate of Need Criteria and Standards for Construction, Renovation, Expansion, Capital Improvements, Replacement of Health Care Facilities, and Addition of Hospital Beds

The Mississippi State Department of Health (MSDH) will review applications for a Certificate of Need for the addition of beds to a health care facility and projects for construction, renovation, expansion, or capital improvement involving a capital expenditure in excess of $2,000,000 under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the MSDH; and the specific criteria and standards listed below.

The construction, development, or other establishment of a new health care facility, the replacement and/or relocation of a health care facility or portion thereof, and changes of ownership of existing health care facilities are reviewable regardless of capital expenditure.

3. **Need Criterion:**

   a. **Projects which do not involve the addition of any acute care beds**: The applicant shall document the need for the proposed project. Documentation may consist of, but is not limited to, citing of licensure or regulatory code deficiencies, institutional long-term plans (duly adopted by the governing board), recommendations made by consultant firms, and deficiencies cited by accreditation agencies (JCAHO, CAP, etc.). In addition, for projects which involve construction, renovation, or expansion of emergency department facilities,

the applicant shall include a statement indicating whether the hospital will participate in the statewide trauma system and describe the level of participation, if any.

b. **Projects which involve the addition of beds**: The applicant shall document the need for the proposed project. In addition to the documentation required as stated in Need Criterion (1)(a), the applicant shall document that the facility in question has maintained an occupancy rate of at least 60 percent for the most recent two (2) years or has maintained an occupancy rate of at least 70 percent for the most recent two (2) years according to the below formula:

Observation patient days*/365/ licensed beds + Inpatient Occupancy rate

*An observation patient is a patient that has NOT been admitted as an inpatient, but occupies an acute care bed (observation bed) and is provided observation services in a licensed, acute care hospital. Hospitals shall follow strict guidelines set forth by The Centers for Medicare & Medicaid Services, health insurance companies, and others in reporting observation bed data to the Department. For definitions that correspond with the above referenced item, please refer to the Glossary included in the Plan.

4. Bed Service Transfer/Reallocation/Relocation: Applications proposing the transfer, reallocation, and/or relocation of a specific category or sub-category of bed/service from another facility as part of a renovation, expansion, or replacement project shall document that the applicant will meet all regulatory/licensure requirements for the type of bed/service being transferred/reallocated/relocated.

5. Charity/Indigent Care: The application shall affirm that the applicant will provide a "reasonable amount" of indigent/charity care as described in Chapter 1 of this *Plan*.

6. The application shall demonstrate that the cost of the proposed project, including equipment, is reasonable in comparison with the cost of similar projects in the state.

   a. The applicant shall document that the cost per square foot (per bed if applicable) does not exceed the median construction costs, as determined by the MSDH, for similar projects in the state within the most recent 12-month period by more than 15 percent. The Glossary of this *Plan* provides the formulas to be used by MSDH staff in calculating the cost per square foot for construction and/or construction/renovation projects.

   b. If equipment costs for the project exceed the median costs for equipment of similar quality by more than 15 percent, the applicant shall provide justification for the excessive costs. The median costs shall be based on projects submitted during the most recent six-month period and/or estimated prices provided by acceptable vendors.

7. The applicant shall specify the floor areas and space requirements, including the following factors:

   a. The gross square footage of the proposed project in comparison to state and national norms for similar projects.

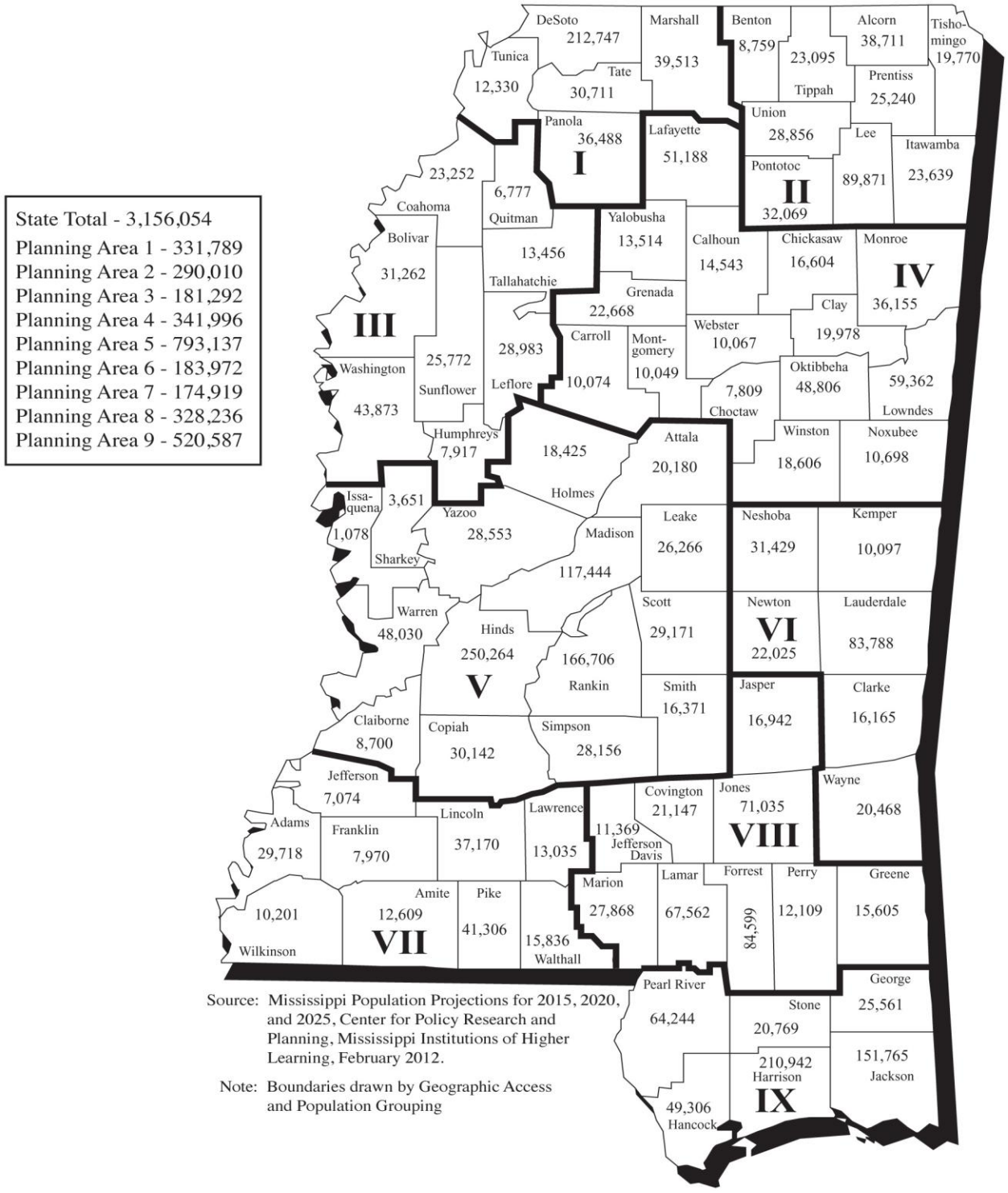
   b. The architectural design of the existing facility if it places restraints on the proposed project.

c. Special considerations due to local conditions.

8. If the cost of the proposed renovation or expansion project exceeds 85 percent of the cost of a replacement facility, the applicant shall document their justification for rejecting the option of replacing said facility.

9. The applicant shall document the need for a specific service (i.e. perinatal, ambulatory care, psychiatric, etc.) using the appropriate service specific criteria as presented in this and other sections of the *Plan*.

Map 5-1
General Hospital Service Areas
2020 Population Projections



LONG-TERM ACUTE CARE HOSPITALS/BEDS

103 Long-Term Acute Care Hospitals

A long-term acute care (LTAC) hospital is a free-standing, Medicare-certified acute care hospital with an average length of inpatient stay greater than 25 days that is primarily engaged in providing chronic or long-term medical care to patients who do not require more than three hours of rehabilitation or comprehensive rehabilitation per day. As of April 2014, ten long-term acute care hospitals were in operation. The following table lists specific LTAC information.

Table 5-3
Long-Term Acute Care Hospitals
2013

Facility	Location	Authorized Beds	Licensed Beds	Occupancy Rate	Discharges	ALOS
General Hospital Service Area 1		**0**	**0**	**0.00**	**0**	**0.00**
NONE						
General Hospital Service Area 2		**0**	**0**	**0.00**	**0**	**0.00**
NONE						
General Hospital Service Area 3		**80**	**79**	**58.14**	**624**	**26.32**
Alliance Specialty Hospital Greenville*	- Greenville	40	39	52.98	267	28.22
Greenwood AMG Specialty Hospital*	- Greenwood	40	40	63.16	357	24.90
General Hospital Service Area 4		**0**	**0**	**0.00**	**0**	**0.00**
NONE						
General Hospital Service Area 5		**149**	**149**	**79.73**	**1,591**	**26.96**
Mississippi Hospital for Restorative Care	- Jackson	25	25	83.15	221	32.91
Promise Hospital of Vicksburg	- Vicksburg	35	35	74.50	377	24.84
Regency Hospital of Jackson	- Jackson	36	36	74.64	368	26.65
Select Specialty Hospital of Jackson	- Jackson	53	53	85.03	625	26.32
General Hospital Service Area 6		**89**	**89**	**86.49**	**982**	**28.54**
Regency Hospital of Meridian	- Meridian	40	40	75.51	386	27.80
Specialty Hospital of Meridian	- Meridian	49	49	95.44	596	29.03
General Hospital Service Area 7		**0**	**0**	**0.00**	**0**	**0.00**
NONE						
General Hospital Service Area 8		**33**	**33**	**77.05**	**378**	**25.42**
Regency Hospital of Southern Mississippi	- Hattiesburg	33	33	77.05	378	25.42
General Hospital Service Area 9		**80**	**61**	**43.70**	**361**	**25.61**
Select Specialty Hospital-Gulfport	- Gulfport	80	61	43.70	361	25.61
TOTAL		**431**	**411**	**71.48**	**3,936**	**26.98**

NOTE: There are currently no LTAC Hospitals located in GHSA 1, 2, 4, and 7.

*Delta Regional Medical Center changed their name to Alliance Specialty Hospital of Greenville.
*Long Term Acute Hospital of Greenwood changed their name to Greenwood AMG Specialty Hospital.

Source: Applications for Renewal of Hospital License for Calendar Year 2014 and FY 2013 Annual Hospital Report, Mississippi State Department of Health

104 Certificate of Need Criteria and Standards for Long-Term Acute Care Hospitals/Beds

Note: Should the Mississippi State Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi State Department of Health.

104.01 Policy Statement Regarding Certificate of Need Applications for Long-Term Acute Care Hospitals and Long-Term Acute Care Hospital Beds

1. Restorative Care Admissions: Restorative care admissions shall be identified as patients with one or more of the following conditions or disabilities:

    a. Neurological Disorders

        i. Head Injury

        ii. Spinal Cord Trauma

        iii. Perinatal Central Nervous System Insult

        iv. Neoplastic Compromise

        v. Brain Stem Trauma

        vi. Cerebral Vascular Accident

        vii. Chemical Brain Injuries

    b. Central Nervous System Disorders

        i. Motor Neuron Diseases

        ii. Post Polio Status

        iii. Developmental Anomalies

        iv. Neuromuscular Diseases (e.g. Multiple Sclerosis)

        v. Phrenic Nerve Dysfunction

        vi. Amyotrophic Lateral Sclerosis

c. Cardio-Pulmonary Disorders

i. Obstructive Diseases

ii. Adult Respiratory Distress Syndrome

iii. Congestive Heart Failure

iv. Respiratory Insufficiency

v. Respiratory Failure

vi. Restrictive Diseases

vii. Broncho-Pulmonary Dysplasia

viii. Post Myocardial Infarction

ix. Central Hypoventilation

d. Pulmonary Cases

i. Presently Ventilator-Dependent/Weanable

ii. Totally Ventilator-Dependent/Not Weanable

iii. Requires assisted or partial ventilator support

iv. Tracheostomy that requires supplemental oxygen and bronchial hygiene

2. Bed Licensure: All beds designated as long-term care hospital beds shall be licensed as general acute care.

3. Average Length of Stay: Patients' average length of stay in a long-term care hospital must be 25 days or more.

4. Size of Facility: Establishment of a long-term care hospital shall not be for less than 20 beds.

5. Long-Term Medical Care: A long-term acute care hospital shall provide chronic or long-term medical care to patients who do not require more than three (3) hours of rehabilitation or comprehensive rehabilitation per day.

6. Transfer Agreement: A long-term acute care hospital shall have a transfer agreement with an acute care medical center and a comprehensive medical rehabilitation facility.

7. Effective July 1, 1994, no health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need under the authority of Section 41-7-191(1)(c), unless there is a projected need for such beds in the planning district in which the facility is located.

104.02 Certificate of Need Criteria and Standards for the Establishment of a Long-Term Acute Care Hospital and Addition of Long-Term Acute Care Hospital Beds

The Mississippi State Department of Health will review applications for a Certificate of Need for the construction, development, or otherwise establishment of a long-term acute care hospital and bed additions under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi State Department of Health; and the specific criteria and standards listed below.

1. **Need Criterion: The applicant shall document a need for the proposed project. Documentation shall consist of the following:**

    a. minimum of 450 clinically appropriate restorative care admissions with an average length of stay of 25 days; and

    b. a projection of financial feasibility by the end of the third year of operation.

2. The applicant shall document that any beds which are constructed/converted will be licensed as general acute care beds offering long-term acute care hospital services.

3. Applicants proposing the transfer/reallocation/relocation of a specific category or sub-category of bed/service from another facility as part of a renovation, expansion, or replacement project shall document that they will meet all regulatory and licensure requirements for the type of bed/service proposed for transfer/reallocation/relocation.

4. The application shall affirm that the applicant will provide a "reasonable amount" of indigent/charity care as described in Chapter 1 of this *Plan*.

5. The application shall demonstrate that the cost of the proposed project, including equipment, is reasonable in comparison with the cost of similar projects in the state. The applicant shall document that the cost per square foot (per bed if applicable) does not exceed the median construction costs, as determined by the MSDH, for similar projects in the state within the most recent 12-month period by more than 15 percent. The Glossary of this *Plan* provides the formulas MSDH staff shall use to calculate the cost per square foot of space for construction and/or construction-renovation projects.

6. The applicant shall specify the floor areas and space requirements, including the following factors:

    a. The gross square footage of the proposed project in comparison to state and national norms for similar projects.

    b. The architectural design of the existing facility if it places restraints on the proposed project.

    c. Special considerations due to local conditions.

7. The applicant shall provide copies of transfer agreements entered into with an acute care medical center and a comprehensive medical rehabilitation facility.

SWING-BED SERVICES

105 Swing-Bed Programs and Extended Care Services

Federal law allows hospitals of up to 100 beds to use designated beds as "swing beds" to alternate between acute and extended care. Patients occupy swing-beds for a few days to several weeks. Hospitals must meet several requirements for certification as swing-beds under Medicare and Medicaid. Federal certification requirements focus on eligibility, skilled nursing facility services, and coverage requirements. Eligibility criteria include rural location, fewer than 100 beds, a Certificate of Need, and no waiver of the 24-hour nursing requirement.

In addition to meeting acute care standards, swing-bed hospitals must also meet six standards for nursing facility services. These standards involve patients' rights, dental services, specialized rehabilitative services, social services, patient activities, and discharge planning. Swing-bed hospitals have the same Medicare coverage requirements and coinsurance provisions as nursing facilities. Many patients, particularly elderly patients, no longer need acute hospital care but are not well enough to go home. Swing-beds enable the hospital to provide nursing care, rehabilitation, and social services with a goal of returning patients to their homes. Many of these patients would become nursing home residents without the extended period of care received in a swing-bed.

Swing-beds provide a link between inpatient acute care and home or community-based services in a continuum of care for the elderly and others with long-term needs. If return to the community is not possible, the swing-bed hospital assists the patient and family with nursing home placement. The swing-bed concept may help alleviate the problem of low utilization in small rural hospitals and provide a new source of revenue with few additional expenses. Additionally, swing-beds allow hospitals to better utilize staff during periods of low occupancy in acute care beds.

105.01 Swing-Bed Utilization

The fifty-six Mississippi hospitals and one specialty hospital participated in the swing bed program. During Fiscal Year 2013, they reported 7,072 discharges from their swing beds, with 106,850 patient days of care and an average length of stay of 14.35 days. The number of days of care provided in swing beds was equivalent to approximately 258 nursing home beds.

The swing-bed program offers a viable alternative to placement in a nursing home for short-term convalescence. During the year, only about 15.26 percent of the patients who were discharged from a swing-bed went to a nursing home; 66.52 percent went home, 35.16 percent were referred to home health, 9.5 percent was readmitted to a hospital; and 1.6 percent were referred to a personal care home.

Table 5-4
Swing Bed Utilization
FY 2013

Facility	Licensed Beds	Discharges	ALOS	Average Daily Census
General Hospital Service Area 1	**4**	**24**	**7.58**	**0.50**
Alliance Health Care System	4	24	7.58	0.50
General Hospital Service Area 2	**67**	**679**	**10.15**	**18.32**
Baptist Memorial Hospital-Booneville	10	246	9.61	5.93
Baptist Memorial Hospital-Union County	12	129	6.95	2.53
North MS Medical Center-Iuka	10	104	12.33	3.51
Pontotoc Health Services	25	160	12.43	5.41
Tippah County Hospital	10	40	8.95	0.93
General Hospital Service Area 3	**61**	**701**	**8.59**	**22.72**
Bolivar Medical Center	12	170	9.66	4.47
North Sunflower Medical Center	15	311	10.74	9.14
Patients Choice Med. Ctr. of Humphreys County*	0	0	0.00	0.00
Quitman County Hospital	25	86	12.08	4.62
Tallahatchie General Hospital & ECF	9	134	0.00	4.49
General Hospital Service Area 4	**184**	**1,470**	**12.84**	**63.97**
Calhoun Health Services	10	64	19.56	3.28
Gilmore Memorial Regional Medical Center	16	169	7.21	3.36
Kilmichael Hospital	10	1	5.00	0.01
North Mississippi Medical Center-West Point	10	223	8.66	5.30
Noxubee General Critical Access Hospital	25	174	10.46	5.84
Oktibbeha County Hospital	10	2	11.00	0.06
Pioneer Community Hospital of Aberdeen	25	185	15.92	19.73
Pioneer Community Hospital of Choctaw	25	70	13.17	2.46
Trace Regional Hospital	10	35	11.66	1.12
Tyler Holmes Memorial Hospital	10	124	14.33	4.91
Webster Health Services	10	210	12.95	7.13
Winston Medical Center	10	69	10.94	2.49
Yalobusha General Hospital	13	144	21.51	8.28
General Hospital Service Area 5	**186**	**1,325**	**14.04**	**50.58**
Hardy Wilson Memorial Hospital	25	191	17.38	9.12
King's Daughters Hospital-Yazoo City	25	159	11.33	4.85
Baptist Medical Center Leake	10	156	13.84	6.05
Magee General Hospital	12	140	14.71	5.64
Monfort Jones Memorial Hospital	10	90	11.74	2.88
Claiborne County Hospital	4	69	12.06	2.39
S.E. Lackey Critical Access Hospital	15	160	15.09	6.39
Scott Regional Hospital	25	97	15.13	4.08
Sharkey-Issaquena Community Hospital	10	89	9.47	2.33
Simpson General Hospital	25	130	15.51	5.16
Holmes County Hospital & Clinics	25	44	14.41	1.70

Table 5-4 (Continued)
Swing Bed Utilization
FY 2013

Facility	Licensed Beds	Discharges	ALOS	Average Daily Census
General Hospital Service Area 6	**141**	**1,220**	**16.37**	**54.62**
Alliance-Laird Hospital	25	193	12.53	6.62
Anderson Regional Medical Center South	25	297	16.82	13.97
H.C. Watkins Memorial Hospital	25	198	21.29	11.99
John C Stennis Memorial Hospital	25	188	12.88	6.61
Neshoba County General Hospital	10	12	16.83	0.52
Pioneer Community Hospital-Netwon	21	138	14.57	5.36
Wayne General Hospital	10	194	19.11	9.55
General Hospital Service Area 7	**85**	**599**	**18.69**	**28.75**
Beacham Memorial Hospital	15	99	15.90	4.13
Field Memorial Community Hospital	10	123	14.24	4.89
Franklin County Memorial Hospital	25	177	30.45	12.74
Lawerence County Hospital	25	113	12.14	4.01
Walthall County General Hospital	10	87	12.72	2.99
General Hospital Service Area 8	**121**	**736**	**17.23**	**34.88**
Covington County Medical Center	10	205	16.32	9.33
Greene County Hospital	3	42	19.21	2.39
Jasper General Hospital	12	119	20.99	6.24
Jeff Davis Community Hospital	25	90	14.76	3.63
Marion General Hospital	49	192	19.21	10.37
Perry County General Hospital	22	88	11.56	2.93
Ganeral Hospital Service Area 9	**59**	**318**	**22.14**	**18.38**
George County Hospital	10	1	25.00	0.07
Pearl River County Hospital	24	117	23.54	7.55
Stone County Hospital	25	200	21.30	10.77
State Total	**908**	**7,072**	**14.35**	**292.74**

Source: Applications for Renewal of Hospital License for Calendar Year 2014 and FY 2013 Annual Hospital Report, Mississippi State Department of Health

105.02 Certificate of Need Criteria and Standards for Swing-Bed Services

The Mississippi State Department of Health will review applications for a Certificate of Need (CON) to establish swing-bed services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for CON according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the MSDH; and the specific criteria and standards listed below.

1. **Need Criterion: The application shall document that the hospital will meet all federal regulations regarding the swing-bed concept**. However, a hospital may have more licensed beds or a higher average daily census (ADC) than the maximum number specified in federal regulations for participation in the swing-bed program.
2. The applicant shall provide a copy of the Resolution adopted by its governing board approving the proposed participation.
3. If the applicant proposes to operate and staff more than the maximum number of beds specified in federal regulations for participation in the swing-bed program, the application shall give written assurance that only private pay patients will receive swing-bed services.
4. The application shall affirm that upon receiving CON approval and meeting all federal requirements for participation in the swing-bed program, the applicant shall render services provided under the swing-bed concept to any patient eligible for Medicare (Title XVIII of the Social Security Act) who is certified by a physician to need such services.
5. The application shall affirm that upon receiving CON approval and meeting all federal requirements for participation in the swing-bed program, the applicant shall not permit any patient who is eligible for both Medicaid and Medicare or is eligible only for Medicaid to stay in the swing-beds of a hospital for more than 30 days per admission unless the hospital receives prior approval for such patient from the Division of Medicaid.
6. The application shall affirm that if the hospital has more licensed beds or a higher average daily census than the maximum number specified in federal regulations for participation in the swing-bed program, the applicant will develop a procedure to ensure that, before a patient is allowed to stay in the swing-beds of the hospital, there are no vacant nursing home beds available within a 50-mile radius (geographic area) of the hospital. The applicant shall also affirm that if the hospital has a patient staying in the swing-beds of the hospital and the hospital receives notice from a nursing home located within a 50-mile radius that there is a vacant bed available for that patient, the hospital shall transfer the swing-bed patient to the nursing home within five days, exclusive of holidays and weekends, unless the patient's physician certifies that the transfer is not medically appropriate.
7. The applicant shall provide copies of transfer agreements entered into with each nursing facility within the applicant's geographic area.
8. An applicant subject to the conditions stated in Criterion #5 shall affirm in the application that they will be subject to suspension from participation in the swing-bed program for a reasonable period of time by the Department of Health if the Department, after a hearing complying with due process, determines that the hospital has failed to comply with any of those requirements.

THERAPEUTIC RADIATION SERVICES

106 Therapeutic Radiation Services

Therapeutic radiology (also called radiation oncology, megavoltage radiotherapy, or radiation therapy) is the treatment of cancer and other diseases with radiation. Radiation therapy uses high energy light beams (x-ray or gamma rays) or charged particles (electron beams or photon beams) to damage critical biological molecules in tumor cells. Radiation in various forms is used to kill cancer cells by preventing them from multiplying. Therapeutic radiation may be used to cure or control cancer, or to alleviate some of the symptoms associated with cancer (palliative care).

In radiation therapy, a non-invasive treatment can be given repetitively over several weeks to months and can be aimed specifically at the area where treatment is needed, minimizing side effects for uninvolved normal tissues. This repetitive treatment is called fractionation because a small fraction of the total dose is given each treatment. Radiotherapy can only be performed with linear accelerator (linac) technology. Conventionally administrated external beam radiation therapy gives a uniform dose of radiation to the entire region of the body affected by the tumor. Only a small variation of the dose is delivered to various parts of the tumor. Radiotherapy may not be as effective as stereotactic radiosurgery, which can give higher doses of radiation to the tumor itself.

Another type of radiation therapy used in Mississippi is brachytherapy. Unlike the external beam therapy, in which high-energy beams are generated by a machine and directed at a tumor from outside the body, brachytherapy involves placing a radioactive material directly into the body. Brachytherapy radiation implantation was performed on 1,018 patients in 18 of the state's hospitals during FY 2013.

107 Stereotactic Radiosurgery

Despite its name, stereotactic radiosurgery is a non-surgical procedure that uses highly focused x-rays (or in some cases, gamma rays) to treat certain types of tumors, inoperable lesions, and as a post-operative treatment to eliminate any leftover tumor tissue. Stereotactic radiosurgery treatment involves the delivery of a single high-dose – or in some cases, smaller multiple doses – of radiation beams that converge on the specific area of the brain where the tumor or other abnormality resides.

Stereotactic radiosurgery was once limited to the GammaKnife® for treating intra-cranial lesions and functional issues. With the introduction of CyberKnife® and other LINAC-based radiosurgery systems, there has been rapid growth in total-body radiosurgery. The modified LINAC radiosurgery modality is now being used to treat lung, liver, pancreas, prostate, and other body areas. Some modified full-body LINAC models use full-body frames as a guiding tool and others do not. Therefore, the term "stereotactic radiosurgery" will refer to radiosurgery regardless of whether a full-body frame is used or not. A full course of radiosurgery requires only one to five treatments versus 30 to 40 for radiotherapy.

Three basic types of stereotactic radiosurgery are in common use, each of which uses different instruments and sources of radiation:

Cobalt 60 Based (Gamma Knife), which uses 201 beams of highly focused gamma rays. Because of its incredible accuracy, the Gamma Knife is ideal for treating small to medium size lesions.

Linear accelerator (LINAC) based machines, prevalent throughout the world, deliver high-energy x-ray photons or electrons in curving paths around the patient's head. The linear accelerator can perform radiosurgery on larger tumors in a single session or during multiple sessions (fractionated stereotactic radiotherapy). Multiple manufacturers make linear accelerator machines, which have names such as: Axess®, Clinac®, Cyberknife®, Novalis®, Peacock®, TomoTherapy®, Trilogy®, or X-Knife®. According to Accuray, the CyberKnife® is the world's only robotic radiosurgery system designed to treat tumors anywhere in the body non-invasively and with sub-millimeter accuracy.

Particle beam (photon) or cyclotron based machines are in limited use in North America.

Table 5-5 presents the facilities offering megavoltage therapeutic radiation therapy.

108 Diagnostic Imaging Services

Diagnostic imaging equipment and services, except for magnetic resonance imaging, positron emission tomography, and invasive digital angiography, are reviewable under the state's Certificate of Need law only when the capital expenditure for the acquisition of the equipment and related costs exceeds $1.5 million. The provision of invasive diagnostic imaging services, i.e., invasive digital angiography, positron emission tomography, and the provision of magnetic resonance imaging services require a Certificate of Need if the proposed provider has not offered the services on a regular basis within 12 months prior to the time the services would be offered, regardless of the capital expenditure.

Equipment in this category includes, but is not limited to: ultrasound, diagnostic nuclear medicine, digital radiography, angiography equipment, computed tomographic scanning equipment, magnetic resonance imaging equipment, and positron emission tomography.

Table 5-5
Facilities Reporting Megavoltage Therapeutic Radiation Services
by General Hospital Service Area
FY 2012 and FY 2013

Facility	Number and Type of Unit	Number of Treatments (Visits)	
		2012	2013
General Hospital Service Area 1		**10,152**	**8,393**
Baptist Memorial Hospital - DeSoto**	21 - Lin-Acc (6-18MV)	10,152	8,393
General Hospital Service Area 2		**16,796**	**14,423**
Magnolia Regional Health Center	1 - Lin-Acc (6-18MV)	4,535	3,916
North Miss Medical Center	2 - Lin-Acc (6MV & 18MV)	12,261	10,507
General Hospital Service Area 3		**13,480**	**10,386**
Bethesda Cancer Center[1]	1 - Lin-Acc (6MV)	2,477	2,412
Greenwood Leflore Hospital	1 - Lin-Acc (6-18MV)	-	-
Delta Cancer Institute[1]	2 - Lin-Acc (6-18MV)	4,731	4,294
North Central Regional Cancer Center[1]	1 - Lin-Acc (6MV)	6,272	3,680
General Hospital Service Area 4		**28,754**	**37,711**
Baptist Memorial Hospital - Golden Triangle	1 - Lin-Acc (6 - 18MV)	15,792	22,242
Baptist Cancer Institute - North Miss	1 Lin-Acc (6-18MV)	11,083	13,605
Cancer Care at Premier Health Complex[1]	1 - Lin-Acc (6 - 18MV)	1,879	1,864
General Hospital Service Area 5		**60,149**	**71,619**
Cancer Center of Vicksburg[1]	1 - Lin-Acc (6-15MV)	5,079	5,588
Central Miss Medical Center	2 - Lin-Acc (6MV & 18MV)	9,115	9,137
Miss Baptist Medical Center	2 - Lin-Acc (6-18MV, 6*)	23,157	34,590
St. Dominic Hospital	2 - Lin-Acc (6MV & 18MV)	11,489	11,944
University Hospital & Clinics***	3 - Lin-Acc (6-18MV)	11,309	10,360
General Hospital Service Area 6		**9,671**	**8,410**
Anderson Regional Cancer Center	2 - Lin-Acc (6 - 25MV, 4 -10MV)	9,671	8,410
General Hospital Service Area 7		**9,442**	**10,017**
Caring River Cancer Center[1]	1 - Lin-Acc (6-18MV)	4,107	4,833
Southwest Miss Regional Medical Center	1 - Lin-Acc (6-18MV)	5,335	5,184
General Hospital Service Area 8		**18,286**	**17,938**
Forrest General Hospital	2 - Lin-Acc (6-15MV)	14,282	14,447
E+ Oncologics Mississippi, LLC[1] ****	1 - Lin-Acc (6 & 10MV)	4,004	3,491
General Hospital Service Area 9		**13,513**	**14,601**
Biloxi Radiation Oncology Center[1]	1 - Lin-Acc (6MV)	-	-
Cedar Lake Oncology Center[1]	1 Lin-Acc (6 & 18MV)	2,699	1,821
Memorial Hospital at Gulfport	2 - Lin-Acc (6*, 6-18MV)	4,631	7,349
Singing River Hospital	1 - Lin-Acc (6-18MV)	6,183	5,431
State Total		**180,243**	**193,498**

1 Indicates freestanding clinics.
* 6 MV is a Robotic Cyberknife
South Central Mississippi Cancer Center changed their name to E+ Oncologics Mississippi, LLC July 2012 .
**Baptist MH-DeSoto - CON Approved Aug. 2013 for an additional linear accelerator.
***University Hosp & Clinics – Determination of Reviewability Ruling July 2010 for an additional linear accelerator.
****E+Oncologics MS, LLC changed their name to Laurel Cancer Care effective 10/2014.
Sources: Applications for Renewal of Hospital License for Calendar Years 2013 and 2014; and Fiscal Years 2012 and 2013 Annual Hospital Reports.

109 Certificate of Need Criteria and Standards for Therapeutic Radiation Services

Note: Should the Mississippi State Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi State Department of Health.

109.01 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Therapeutic Radiation Equipment, and/or the Offering of Therapeutic Radiation Services (other than Stereotactic Radiosurgery)

1. Service Areas: The Mississippi State Department of Health shall determine the need for therapeutic radiation services/units/equipment by using the General Hospital Service Areas as presented in this chapter of the *Plan*. The MSDH shall determine the need for therapeutic radiation services/units/equipment within a given service area independently of all other service areas. Map 5-1 shows the General Hospital Service Areas.

2. Equipment to Population Ratio: The need for therapeutic radiation units (as defined) is determined to be one unit per 142,592 population (see methodology in this section of the *Plan*). The MSDH will consider out-of-state population in determining need only when the applicant submits adequate documentation acceptable to the Mississippi State Department of Health, such as valid patient origin studies.

3. Limitation of New Services: When the therapeutic radiation unit-to-population ratio reaches one to 142,592 in a given general hospital service area, no new therapeutic radiation services may be approved unless the utilization of all the existing machines in a given hospital service area averaged 8,000 treatments or 320 patients per year for the two most recent consecutive years as reported on the "Renewal of Hospital License and Annual Hospital Report." For the purposes of this policy Cesium-137 teletherapy units, Cobalt-60 teletherapy units designed for use at less than 80 cm SSD (source to skin distance), old betatrons and van de Graaf Generators, unsuitable for modern clinical use, shall not be counted in the inventory of therapeutic radiation units located in a hospital service area.

4. Expansion of Existing Services: The MSDH may consider a CON application for the acquisition or otherwise control of an additional therapeutic radiation unit by an existing provider of such services when the applicant's existing equipment has exceeded the expected level of patient service, i.e., 320 patients per year or 8,000 treatments per year for the two most recent consecutive years as reported on the facility's "Renewal of Hospital License and Annual Hospital Report."

5. Equipment Designated for Backup: Therapeutic radiation equipment designated by an applicant as "backup" equipment shall not be counted in the inventory for CON purposes.

Any treatments performed on the "backup" equipment shall be attributed to the primary equipment for CON purposes.

6. Definition of a Treatment: For health planning and CON purposes a patient "treatment" is defined as one individual receiving radiation therapy during a visit to a facility which provides megavoltage radiation therapy regardless of the complexity of the treatment or the number of "fields" treated during the visit.

7. Use of Equipment or Provision of Service: Before the equipment or service can be utilized or provided, the applicant desiring to provide the therapeutic radiation equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval, as determined by the Mississippi State Department of Health.

109.02 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Therapeutic Radiation Equipment and/or the Offering of Therapeutic Radiation Services (other than Stereotactic Radiosurgery)

The Mississippi State Department of Health will review Certificate of Need applications for the acquisition or otherwise control of therapeutic radiation equipment and/or the offering of therapeutic radiation services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi State Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of therapeutic radiation equipment is reviewable if the equipment cost exceeds $1,500,000. The offering of therapeutic radiation services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion: The applicant shall document a need for therapeutic radiation equipment/service by complying with any one of the following methodologies:

a. the need methodology as presented in this section of the *Plan*;

b. demonstrating that all existing machines in the service area in question have averaged 8,000 treatments per year or all machines have treated an average of 320 patients per year for the two most recent consecutive years; or

c. demonstrating that the applicant's existing therapeutic equipment has exceeded the expected level of patients service, i.e., 320 patients per year/unit, or 8,000 treatments per year/unit for the most recent 24-month period.

2. The applicant must document that access to diagnostic X-ray, CT scan, and ultrasound services is readily available within 15 minutes normal driving time of the therapeutic radiation unit's location.

3. An applicant shall document the following:

a. The service will have, at a minimum, the following full-time dedicated staff:

i. One board-certified radiation oncologist-in-chief

ii. One dosimetrist

iii. One certified radiation therapy technologist certified by the American Registry of Radiation Technologists

iv. One registered nurse

b. The service will have, at a minimum, access to a radiation physicist certified or eligible for certification by the American Board of Radiology.

Note: One individual may act in several capacities. However, the application shall affirm that when a staff person acts in more than one capacity, that staff person shall meet, at a minimum, the requirements for each of the positions they fill.

4. The applicant shall affirm that access will be available as needed to brachytherapy staff, treatment aides, social workers, dietitians, and physical therapists.

5. Applicants shall document that all physicians who are responsible for therapeutic radiation services in a facility, including the radiation oncologist-in-chief, shall reside within 60 minutes normal driving time of the facility.

6. The application shall affirm that the applicant will have access to a modern simulator capable of precisely producing the geometric relationships of the treatment equipment to a patient. This simulator must produce high quality diagnostic radiographs. The applicant shall also affirm that the following conditions will be met as regards the use of the simulator:

   a. If the simulator is located at a site other than where the therapeutic radiation equipment is located, protocols will be established which will guarantee that the radiation oncologist who performs the patient's simulation will also be the same radiation oncologist who performs the treatments on the patient.

   b. If the simulator uses fluoroscopy, protocols will be established to ensure that the personnel performing the fluoroscopy have received appropriate training in the required techniques related to simulation procedures.

      Note: X-rays produced by diagnostic X-ray equipment and photon beams produced by megavoltage therapy units are unsuitable for precise imaging of anatomic structures within the treatment volume and do not adequately substitute for a simulator.

7. The application shall affirm that the applicant will have access to a computerized treatment planning system with the capability of simulation of multiple external beams, display isodose distributions in more than one plane, and perform dose calculations for brachytherapy implants.

   Note: It is highly desirable that the system have the capability of performing CT based treatment planning.

8. The applicant shall affirm that all treatments will be under the control of a board certified or board eligible radiation oncologist.

9. The applicant shall affirm that the proposed site, plans, and equipment shall receive approval from the MSDH Division of Radiological Health before service begins.

10. The application shall affirm that the applicant will establish a quality assurance program for the service, as follows:

    a. The therapeutic radiation program shall meet, at a minimum, the physical aspects of quality assurance guidelines established by the American College of Radiology (ACR) within 12 months of initiation of the service.

    b. The service shall establish a quality assurance program which meets, at a minimum, the standards established by the American College of Radiology.

11. The applicant shall affirm understanding and agreement that failure to comply with criterion #10 (a) and (b) may result in revocation of the CON (after due process) and subsequent termination of authority to provide therapeutic radiation services.

109.02.01 Therapeutic Radiation Equipment/Service Need Methodology

1. Treatment/Patient Load: A realistic treatment/patient load for a therapeutic radiation unit is 8,000 treatments or 320 patients per year.

2. Incidence of Cancer: The American Cancer Society (ACS) estimates that Mississippi will experience 15,740 new cancer cases in 2014 (excluding basal and squamous cell skin cancers and in-situ carcinomas except urinary bladder cancer). Based on a population of 3,156,054 (year 2020) as estimated by the Center for Policy Research and Planning, the cancer rate of Mississippi is 4.99 cases per 1,000 population.

3. Patients to Receive Treatment: The number of cancer patients expected to receive therapeutic radiation treatment is set at 45 percent.

4. Population to Equipment Ratio: Using the above stated data, a population of 100,000 will generate 499 new cancer cases each year. Assuming that 45 percent will receive radiation therapy, a population of 142,592 will generate approximately 320 patients who will require radiation therapy. Therefore, a population of 142,592 will generate a need for one therapeutic radiation unit.

109.02.02 Therapeutic Radiation Equipment Need Determination Formula

1. Project annual number of cancer patients.

General Hospital Service Area Population	X	4.99 cases* / 1,000 population = New Cancer Cases

*Mississippi cancer incidence rate

2. Project the annual number of radiation therapy patients.

New Cancer Cases X 45% = Patients Who Will Likely Require Radiation Therapy

3. Estimate number of treatments to be performed annually.

   Radiation Therapy Patients X 25 Treatments per Patient (Avg.) = Estimated Number of Treatments

4. Project number of megavoltage radiation therapy units needed.

   $$\frac{\text{Est. \# of Treatments}}{\text{8,000 Treatments per Unit}} = \text{Projected Number of Units Needed}$$

5. Determine unmet need (if any) Projected Number of Units Needed — Number of Existing Units = Number of Units Required (Excess)

109.03 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Stereotactic Radiosurgery Equipment and/or the Offering of Stereotactic Radiosurgery.

1. Service Areas: The Mississippi State Department of Health shall determine the need for stereotactic radiosurgery services/units/equipment by using the actual stereotactic radiosurgery provider's service area.

2. Equipment to Population Ratio: The need for stereotactic radiosurgery units is determined to be the same as for radiotherapy, for 2020, a population of 142,592. The therapeutic radiation need determination formula is outlined in Section 109.02.02 above.

3. Accessibility: Nothing contained in these CON criteria and standards shall preclude the University of Mississippi School of Medicine from acquiring and operating stereotactic radiosurgery equipment, provided the acquisition and use of such equipment is justified by the School's teaching and/or research mission. However, the requirements listed under the section regarding the granting of "appropriate scope of privileges for access to the stereotactic radiosurgery equipment to any qualified physician" must be met.

4. Expansion of Existing Services: The MSDH may consider a CON application for the acquisition or otherwise control of an additional stereotactic radiosurgery unit by an existing provider of such services when the applicant's existing equipment has exceeded the expected level of patient service, i.e., 900 treatments per year for the two most recent consecutive years as reported on the facility's "Renewal of Hospital License and Annual Hospital Report."

5. Facilities requesting approval to add stereotactic radiosurgery services should have an established neurosurgery program and must be able to demonstrate previous radiosurgery service experience.

6. All stereotactic radiosurgery services should have written procedures and policies for discharge planning and follow-up care for the patient and family as part of the institution's overall discharge planning program.

7. All stereotactic radiosurgery services should have established protocols for referring physicians to assure adequate post-operative diagnostic evaluation for radiosurgery patients.

8. The total cost of providing stereotactic radiosurgery services projected by prospective providers should be comparable to the cost of other similar services provided in the state.

9. The usual and customary charge to the patient for stereotactic radiosurgery should be commensurate with cost.

109.04 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Stereotactic Radiosurgery Equipment and/or the Offering of Stereotactic Radiosurgery

The Mississippi State Department of Health will review Certificate of Need applications for the acquisition or otherwise control of stereotactic radiosurgery equipment and/or the offering of stereotactic radiosurgery services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manua*l; all adopted rules, procedures, and plans of the Mississippi State Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of stereotactic radiosurgery equipment is reviewable if the equipment cost exceeds $1,500,000. The offering of stereotactic radiosurgery services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. **Need Criterion: The applicant shall document a need for stereotactic radiosurgery equipment/service by reasonably projecting that the proposed new service will perform at least 900 stereotactic radiosurgery treatments in the third year of operation. No additional new stereotactic radiosurgery services should be approved unless the number of stereotactic radiosurgery treatments performed with existing units in the state average 900 treatments or more per year.**

2. Staffing:

   a. The radiosurgery programs must be established under the medical direction of two co-directors, one with specialty training and board certification in neurosurgery and the other with specialty training and board certification in radiation oncology, with experience in all phases of stereotactic radiosurgery.

   b. In addition to the medical co-directors, all stereotactic radiosurgery programs should have a radiation physicist who is certified in radiology, or who holds an advanced degree in physics with two to three years experience working under the direction of a radiation oncologist, and a registered nurse present for each stereotactic radiosurgery performed.

   c. The applicant shall document that the governing body of the entity offering stereotactic radiosurgery services will grant an appropriate scope of privileges for access to the stereotactic radiosurgery equipment to any qualified physician who applies for privileges. For the purpose of this criterion, "Qualified Physician" means a doctor of medicine or osteopathic medicine licensed by the State of Mississippi who possesses training in stereotactic radiosurgery and other qualifications established by the governing body.

3. Equipment:

   a. Facilities providing stereotactic radiosurgery services should have dosimetry and calibration equipment and a computer with the appropriate software for performing stereotactic radiosurgery.

   b. The facility providing stereotactic radiosurgery services should also have access to magnetic resonance imaging, computed tomography, and angiography services

DIAGNOSTIC IMAGING SERVICES

110 Computed Tomographic (CT) Scanning

Should the capital expenditure for the acquisition of fixed or mobile CT scanning services, equipment, and related costs exceed $1.5 million, the CON proposal will be reviewed under the general review criteria outlined in the most recent *Certificate of Need Review Manual* adopted by the Mississippi State Department of Health and the following utilization standards:

- A proposed unit must be able to generate a minimum of 2,000 HECTs (See Table 5-6 for HECT conversion table) by the second year of operation.

- Providers desiring CT capability must be properly utilizing 20,000 general radiographic imaging procedures per year.

Table 5-6
Head Equivalent Conversion Table (HECT)

Type of Scan	Yearly Number of Patients	Conversion Factor	HECTs*
Head without Contrast	500	1.00	500
Head with Contrast	500	1.25	625
Head with and without Contrast	200	1.75	350
Body without Contrast	100	1.50	150
Body with Contrast	200	1.75	350
Body with and without Contrast	300	2.75	825

* Formula: Yearly Number of Patients X Conversion Factor = HECTs

110.01 Magnetic Resonance Imaging (MRI)

Magnetic resonance imaging (MRI) is a diagnostic imaging technique that employs magnetic and radio-frequency fields to produce images of the body non-invasively. Magnetic resonance imaging is similar to CT scanning in that it produces cross-sectional and digital images without potentially harmful ionizing radiation, producing an image not distorted by bone mass. The equipment and its operational specifications continue to be refined.

One hundred and four facilities (hospitals and free-standing) in Mississippi operated fixed or mobile based MRI units in FY 2013. These facilities performed a total of 258,189 MRI procedures during the year. Table 5-7 presents the location, type (fixed or mobile and number of units per facility), and utilization of MRI equipment throughout the state in 2012 and 2013.

Table 5-7
Location and Number of MRI Procedures by General Hospital Service Area
FY 2012 and FY 2013

	Type of Providers	City	County	Type of Equipment	Number of MRI Procedures		Days/Hours of Operation
					2012	2013	2013
General Hospital Service Area 1					**15,818**	**15,316**	
Baptist Memorial Hospital - DeSoto	H	Southaven	DeSoto	F(3)	7,388	7,021	Sun.-Sat., 252 Hrs.
Methodist Diagnostic Center*	FS	Olive Branch	DeSoto	F	2,054	1,601	M-F, 50 Hrs.
Methodist Diagnostic Center*	FS	Southaven	DeSoto	F	2,340	2,418	M-F, 60 Hrs.
Methodist Healthcare Olive Branch Hospital	H	Southaven	DeSoto	F	-	54	
Desoto Imaging Specialists	FS	Southaven	DeSoto	F	3,141	3,562	M-F, 60 Hrs.
Superior MRI Services fka P&L Contracting [1]	MP	Batesville	Panola	M	86	-	N/A
Tri-Lakes Medical Center	H	Batesville	Panola	M	809	660	Tu. F, & Sat., 24 Hrs.
General Hospital Service Area 2					**35,133**	**32,523**	
Baptist Memorial Hospital - Booneville	H	Booneville	Prentiss	F	972	974	M-F, 40 Hrs
Baptist Memorial Hospital - Union	H	New Albany	Union	F	2,800	2,446	Mon-Sat., 168 Hrs.
Imaging Center of Gloster Creek Village	FS	Tupelo	Lee	F	3,351	3,061	M-F, 55 Hrs.
Magnolia Regional Health Center	H	Corinth	Alcorn	F(2)	6,965	6,345	M-Su, M-F- 110 Hrs.
Medical Imaging at Barnes Crossing	FS	Tupelo	Lee	F	3,412	3,293	M-F, 50 Hrs.
Medical Imaging at Crossover Road	FS	Tupelo	Lee	F	2,101	2,023	M-F, 40 Hrs.
North Miss. Medical Center	H	Tupelo	Lee	F(4)	14,110	13,034	M-Su. & M-F, 240 Hrs.
North Miss. Medical Center - Iuka	H	Iuka	Tishomingo	M	1,133	1,048	M-F, 40 Hrs.
North Mississippi Sports Medicine	FS	Tupelo	Lee	F	289	299	M-F, 40 Hrs.
General Hospital Service Area 3					**10,434**	**9,874**	
Bolivar Medical Center	H	Cleveland	Bolivar	M	1,129	982	M-F, 40 Hrs.
Delta Regional Med. Center-Main Campus	H	Greenville	Washington	F	2,618	2,838	M-F, 40 Hrs.
Greenwood Leflore Hospital	H	Greenwood	Leflore	F	3,878	3,441	M-F, 50+ Hrs.
Northwest Miss. Regional Medical Center**	H	Clarksdale	Coahoma	F	1,789	1,492	M-F, 40 Hrs.
South Sunflower County Hospital	H	Indianola	Sunflower	M	528	472	W., 4 Hrs.
Superior- North Sunflower Medical Center [1]	MP	Ruleville	Sunflower	M	401	464	M, W., 8 Hrs.
Tallahatchie General Hospital	H	Indianola	Sunflower	M	91	185	M, 4 Hrs.
General Hospital Service Area 4					**26,234**	**27,201**	
Baptist Memorial Hospital - Golden Triangle	H	Columbus	Lowndes	F(2)	4,535	4,910	M-F, 110 Hrs.
Baptist Memorial Hospital - North MS	H	Oxford	Lafayette	F	2,158	2,624	Sun.-Sat., 140+ Hrs.
Calhoun Health Services	H	Calhoun City	Calhoun	M	286	293	M. & Thr., 10 Hrs.
Gilmore Memorial Hospital, Inc.	H	Amory	Monroe	F	1,211	1,114	M-F, 40 Hrs.
Imaging Center of Columbus	FS	Columbus	Lowndes	F(2)	5,331	6,051	M-F, 80+ Hrs.
Imaging Ctr. of Excellence Institute - MSU	FS	Starkville	Oktibbeha	F	1,544	1,452	M-F, 40 Hrs.
North Miss. Medical Center - Eupora	H	Eupora	Webster	M	907	795	M-F, 40 Hrs.
North Miss. Medical Center - West Point	H	West Point	Clay	M	843	684	M-F, 40 Hrs.
Oktibbeha County Hospital	H	Starkville	Oktibbeha	F	2,451	2,446	M-F, 40 Hrs.
Pioneer Community Hospital	H	Aberdeen	Monroe	M	431	451	M,T & W, F, 20 Hrs.
Oxford Diagnostic Center	FS	Oxford	Lafayette	F	2,981	3,257	M-F, 78 Hrs.
Trace Regional Hospital	H	Houston	Chickasaw	M	463	464	Tu.-F, 16 Hrs.
Tyler Holmes Memorial Hospital	H	Winona	Montgomery	M	322	272	W, 4 Hrs.
University of MS Medical Center - Grenada*	H	Grenada	Grenada	F	2,505	2,219	M-F, 40 Hrs.
Yalobusha Hospital	H	Water Valley	Yalobusha	M	266	169	M, 3.5 Hrs.

F – Fixed Unit
M – Mobile Unit
Type of Providers: H-Hospital, FS-Freestanding, and MP-Mobile Provider

*Carvel Imaging Center changed their name to Methodist Diagnostic Center.
**Northwest MS Regional MC was CON Approved June 2012 to convert from a mobile unit to a fixed unit.
*Grenada Lake Medical Center changed name to University of MS Medical Center – Grenada
* Methodist Diagnostic Center located in Olive Branch, MS closed in August 2013 and MRI unit has withdrawn from service.

[1] Superior fka P&LContracting,, Inc. is the approved service provider.
[2] Scott Medical Imaging is the approved service provider.

Table 5-7 (continued)
Location and Number of MRI Procedures by General Hospital Service Area
FY 2012 and FY 2013

Facility	Type of Providers	City	County	Type of Equipment	Number of MRI Procedures		Days/Hours of Operation
					2012	2013	2013
General Hospital Service Area 5					**80,397**	**81,165**	
Baptist Medical Center - Leake, Inc.	H	Carthage	Leake	M	238	205	Tu., 4 Hrs.
Central MS Diagnostics	FS	Jackson	Hinds	F	1,814	1,545	M-F, 45 Hrs.
Central MS Medical Center	H	Jackson	Hinds	F(2)	3,323	4,031	M-F, 90+ Hrs.
Crossgates River Oaks Hospital	H	Brandon	Rankin	F	1,546	858	M-S, 56 Hrs.
Hardy Wilson Hospital	H	Hazlehurst	Copiah	M	498	452	M, Th.,& Fri. 12 Hrs.
King's Daughters Medical Center	H	Yazoo City	Yazoo	M	613	517	T, 4 Hrs
Kosciusko Medical Clinic [3]	FS	Kosciusko	Attala	F	2,702	2,736	M-F, 40+ Hrs.
Madison Medical Imaging, LLC	FS	Madison	Madison	F	2,197	2,011	M-F, 40 Hrs.
Madison Radiological Group, LLC	FS	Madison	Madison	F	2,427	2,357	M-F, 40 Hrs.
Madison River Oaks Hospital	H	Madison	Madison	M	CON	19	M, 4 Hrs
Magee General Hospital	H	Magee	Simpson	F	1,039	989	M-F, 40 Hrs.
Miss. Baptist Medical Center	H	Jackson	Hinds	F(2)	7,944	7,918	M-Sat., M-F, 104 Hrs.
Miss. Diagnostic Imaging Center	FS	Flowood	Rankin	F(2)	2,850	3,549	M-F, 45 Hrs.
Miss. Sports Medicine & Orthopedic	FS	Jackson	Hinds	F(2)	5,487	6,218	M-F, 90 Hrs.
Monfort Jones Memorial Hospital [3]	H	Kosciusko	Attala	-	108	68	M, F 30 Hrs.
Open MRI of Jackson	FS	Flowood	Rankin	F	1,216	1,345	M-F, 45 Hrs.
Ridgeland Diagnostic Center	FS	Ridgeland	Madison	M	480	571	T, W, & Th. 12 Hrs.
River Oaks Hospital	H	Flowood	Rankin	F	4,695	2,796	M-F, 50 Hrs.
River Region Health System	H	Vicksburg	Warren	F	2,777	2,562	M-F, 60 Hrs.
SE Lackey Memorial Hospital	H	Forrest	Scott	M	595	661	M, W, & Th, 24 Hrs.
Scott Regional Hospital	H	Morton	Scott	M	129	227	F, 4 Hrs.
Sharkey/Issaquena Hospital	H	Rolling Fork	Sharkey	M	170	145	Tues., 2.5 hrs.
Southern Diagnostic Imaging	FS	Flowood	Rankin	F	5,907	5,637	M-F, 85 Hrs.
SMI-Madison Specialty Clinic [2]	MP	Canton	Madison	M	280	203	Tu. & Th., 8 Hrs.
SMI-Simpson General Hospital [2]	MP	Mendenhall	Simpson	M	146	0	Th., 4 Hrs.
St. Dominic Hospital	H	Jackson	Hinds	F(4)/M(1)	15,747	16,393	M-Sun., 216 Hrs.
University Hospital & Health System	H	Jackson	Hinds	F(5)	14,156	16,000	M-F, Sat.-Sun. 516 Hrs.
Holmes County Hospital & Clinics	H	Lexington	Holmes	M	331	322	M, 6 Hrs.
Vicksburg Diagnostic Imaging	FS	Vicksburg	Warren	M	982	830	M-F, 40 Hrs.
General Hospital Service Area 6					**13,721**	**15,447**	
Anderson Regional Medical Center*	H	Meridian	Lauderdale	F*(3)	2,640	4,682	M-F, 40 Hrs.
H. C. Watkins Memorial Hospital	H	Quitman	Clarke	M	231	180	Tu. & Thr., 16 Hrs.
Imaging Center of Meridian, LLC	FS	Meridian	Lauderdale	M	2,817	2,755	M-F, 45 Hrs.
John C Stennis Memorial Hospital	H	DeKalb	Kemper	M	-	35	M-F, 45 Hrs.
Laird Hospital	H	Union	Newton	M	700	563	M,W, & F, 20 Hrs.
Neshoba County General Hospital	H	Philadelphia	Neshoba	M	1,703	1,361	M-F., 40Hrs.
Pioneer Community Hospital of Newton	H	Newton	Newton	M	188	148	M, 4 Hrs.
Regional Medical Support Center, Inc. [4]	FS	Meridian	Lauderdale	F(3)	-	-	N/A
Rush Medical Group [5]	FS	Meridian	Lauderdale	F(2)	5,169	5,467	M-F, 130 Hrs.
Wayne County Hospital	H	Waynesboro	Wayne	M	273	256	M, 4 hrs.

F – Fixed Unit
M – Mobile Unit
Type of Providers: H-Hospital, FS-Freestanding, and MP-Mobile Provider

* Anderson RMC (ARMC) – See Page 44 for details.
[2] Scott Medical Imaging is the approved service provider.
[3] Monfont Jones Memorial Hospital shares a fixed unit with Kosciusko Medical Clinic.
[4] Regional Medical Support Center, Inc. (RMSC) performed MRIs for Anderson Regional Medical Center, Anderson Regional Medical Center-South Campus (fka Riley Memorial Hospital), & Rush Foundation Hospital. Regional Medical Support Center, Inc. performed scans for Anderson Regional Medical Center until October 24, 2010. RMSC dissolved July 2012.
[5] Rush Medical Group performs MRIs for Rush Foundation Hospital.
-John C. Stennis Memorial Hospital was CON Approved April 2013 to provide mobile MRI Services in Dekalb, Kemper County, MS.

Table 5-7(continued)
Location and Number of MRI Procedures by General Hospital Service Area
FY 2012 and FY 2013

Facility	Type of Providers	City	County	Type of Equipment	Number of MRI Procedures		Days/Hours of Operation
					2012	2013	2013
General Hospital Service Area 7					**11,135**	**10,455**	
King's Daughters Medical Center	H	Brookhaven	Lincoln	F	2,079	2,190	M-F, 80 Hrs.
Open Air of Miss Lou-Natchez Reg. M.C.	H	Natchez	Adams	F(2)	2,842	2,106	M-F, 80 Hrs.
Natchez Regional Medical Center	MP	Natchez	Adams	F(2)	3,029	2,616	N/A
SMI-Lawrence County Hospital [2]	MP	Monticello	Lawrence	M	133	133	Thr. 4 Hrs.
SMI - Walthall County Hospital [2]	MP	Tylertown	Walthall	M	159	121	W, 4 Hrs.
Southwest MS Regional Medical Center	H	McComb	Pike	F	2,893	3,289	M-F, 40 Hrs.
General Hospital Service Area 8					**35,425**	**31,673**	
Forrest General Hospital	H	Hattiesburg	Forrest	F(2)	5,908	5,172	M-Sun., 170 Hrs.
Hattiesburg Clinic, P.A.	FS	Hattiesburg	Forrest	F(4)	11,189	11,180	Sat & Sun 180 & M-F 80 Hrs.
Jefferson Davis Comm. Hospital [6]	MP	Prentiss	Jeff Davis	M	187	132	Th., 4 Hrs.
Open Air MRI of Laurel	FS	Laurel	Jones	F	3,868	3,681	M-F, 50 Hrs.
SMI - Marion General Hospital [2]	MP	Columbia	Marion	M	338	316	Tu., 4 Hrs.
South Central Regional Medical Center	H	Laurel	Jones	F	2,012	1,998	M-F, 50 Hrs.
Southern Bone & Joint Specialist, PA	FS	Hattiesburg	Forrest	F(2)	6,528	6,266	M-Sat., 140 Hrs.
Southern Neurologic and Spinal Institute*	FS	Hattiesburg	Forrest	F	2,318	N/A	M-F, 40 Hrs.
Wesley Medical Center	H	Hattiesburg	Lamar	F	3,077	2,928	M-F, 50 Hrs.
General Hospital Service Area 9					**37,691**	**34,535**	
Biloxi Regional Medical Center	H	Biloxi	Harrison	F	3,093	2,268	M-F, 50+ Hrs.
Cedar Lake MRI-Open MRI LLC	FS	Gulfport	Harrison	F	2,764	3,680	M-F, 55 Hrs.
Coastal County Imaging Services	FS	Gulfport	Harrison	F	1,445	1,260	M& F, 45 Hrs.
Compass Imaging, LLC	FS	Gulfport	Harrison	F	3,511	4,144	M-F 80 Hrs.
Compass Imaging, LLC*	FS	D'Iberville	Harrison	M	-	443	Tu. & F, 8 Hrs.
Garden Park Medical Center	H	Gulfport	Harrison	F	1,957	1,930	M-F, 40 Hrs.
George County Hospital	H	Lucedale	George	F	851	894	M-F, 40 Hrs.
Hancock Medical Center/HMC-Imaging Center	H	Bay St. L./D.Head	Hancock	F (2)	1,350	1,097	M-F,100 Hrs.
Highland Community Hospital*	H	Picayune	Pearl River	M	1,243	1,469	M-Sat., 45 Hrs.
Memorial Hospital at Gulfport	H	Gulfport	Harrison	F(2)	6,744	7,385	M-F, 150 Hrs.
Ocean Springs Hospital	H	Ocean S./OS Img Ctr.	Jackson	F (2)	4,652	4,291	M-F, 115+ Hrs.
OMRI, Inc. dba Open MRI	MP	Ocean Springs	Jackson	M(3)	4,228	N/A	M, Thr. 120 & F 160 Hrs.
Singing River Hospital	H	Pascagoula	Jackson	F(2) M	5,632	5,507	M-F, 155+ Hrs.
Stone County Hospital	H	Wiggins	Stone	M	221	167	Sat., 4 Hrs.
State Total					**265,988**	**258,189**	

F – Fixed Unit
M – Mobile Unit
Type of Providers: H-Hospital, FS-Freestanding, and MP-Mobile Provider

GSHA 6-Anderson RMC (ARMC) was CON approved 10/09 for a fixed MRI unit. Alliance Imaging performed mobile MRI services from 10/10-08/12. ARMC received approval through a Determination of Reviewability on June 2012 to acquire 3 fixed units from RMSC.
[2] Scott Medical Imaging is the approved service provider.
[6] Comprehensive Radiology Services, PLLC fka Hattiesburg Radiology Group, PLLC is the approved service provider.
Compass Imaging, LLC was CON Approved February 2013 to provide mobile MRI Services in D'Iberville, Harrison County, MS.
*Southern Neurologic and Spinal Institute fka Southern Medical Imaging.
*Highland Community Hospital received CON approval for the Acquisition of MRI Equipment and Conversion from Mobile MRI Services to Fixed MRI Services in April 2014.

Sources: Applications for Renewal of Hospital License for Calendar Years 2013 and 2014; Fiscal Year 2013 and 2014 Annual Hospital Reports; FY 2012 and FY 2013 MRI Utilization Survey

111 Digital Subtraction Angiography (DSA)

Digital Subtraction Angiography (DSA) is a diagnostic imaging procedure that combines a digital processing unit with equipment similar to that used for standard fluoroscopic procedures. A radiopaque dye is injected into the patient; a computer then compares the pre-injection and post-injection images and subtracts any interfering bone and tissue structures obscuring the arteries. The X-ray pictures are converted to a digital form, which can be electronically manipulated and stored. Through the electronic manipulation, the images can be enhanced and further refined to give detailed information about the patient's vascular anatomy without additional X-ray exposure.

In some cases, the use of DSA may eliminate the need for arterial catheterization, which many times carries a higher risk factor. Because the digital method is more sensitive to contrast materials, a lesser amount is generally needed in a given area, and intravenous injection of contrast may be sufficient. When required, intra-arterial injection can be done using less contrast per study.

Due to its relative safety and good patient acceptance, DSA may be performed on a repeat basis in cases where risk and cost of conventional angiography might otherwise preclude a series of follow-up studies. Such studies can provide valuable information regarding the natural history of a variety of vascular diseases and the long-term results of various therapeutic interventions. DSA also allows safer screening of the elderly, who have a high risk of cerebrovascular disease.

Most DSA studies can be performed in less than one hour and are appropriate as an outpatient procedure, whereas conventional angiography usually requires a hospital stay of one or two days. Twenty-six hospitals and one freestanding facility in the state provide DSA. During 2013, 42,885 procedures were reported.

DSA equipment performs several types of procedures. These procedures include examination of the carotid arteries, intracranial arteries, renal arteries, aortic arch, and peripheral leg arteries. A variety of anatomical and functional studies of the heart and coronary arteries are also performed.

Table 5-8 presents DSA utilization throughout the state in 2013.

Table 5-8
Digital Subtraction Angiography (DSA) Utilization
FY 2013

County	Facilities	City	DSA Procedures 2011
General Hospital Service Area 1			**4,441**
DeSoto	Baptist Memorial Hospital - DeSoto	Southaven	879
DeSoto	DeSoto Imaging Specialists[1]	Southaven	3,562
General Hospital Service Area 2			**8,278**
Alcorn	Magnolia Regional Medical Center	Corinth	328
Lee	North Mississippi Medical Center	Tupelo	7,950
General Hospital Service Area 3			**3,321**
Bolivar	Bolivar Medical Center	Cleveland	724
Leflore	Greenwood Leflore Hospital	Greenwood	2,597
General Hospital Service Area 4			**315**
Lafayette	Baptist Memorial Hospital - North Mississippi	Oxford	142
Lowndes	Baptist Memorial Hospital- Golden Triangle	Columbus	173
General Hospital Service Area 5			**19,902**
Hinds	Central Mississippi Medical Center	Jackson	2,477
Hinds	Mississippi Baptist Medical Center	Jackson	3,558
Hinds	St. Dominic Jackson Memorial Hospital	Jackson	9,459
Hinds	University Hospital & Health System	Jackson	4,173
Rankin	Crossgates River Oaks Hospital (Rankin MC)	Brandon	220
Rankin	River Oaks Hospital	Brandon	15
General Hospital Service Area 6			**3,130**
Lauderdale	Anderson Regional Medical Center	Meridian	2,851
Lauderdale	Rush Foundation Hospital	Meridian	279
General Hospital Service Area 7			**24**
Adams	Natchez Regional Medical Center	Natchez	24
General Hospital Service Area 8			**1,839**
Forrest	Forrest General Hospital	Hattiesburg	1,663
Jones	South Central Regional Medical Center	Laurel	10
Lamar	Wesley Medical Center	Hattiesburg	166
General Hospital Service Area 9			**1,635**
Harrison	Memorial Hospital at Gulfport	Gulfport	1,190
Jackson	Ocean Springs Hospital	Ocean Springs	230
Jackson	Singing River Hospital	Pascagoula	215
State Total			**42,885**

[1] Indicates freestanding clinics.

Sources: Applications for Renewal of Hospital License for Calendar Years 2014; Fiscal Year 2013 Annual Hospital Report; FY 2013 DSA Utilization Survey.

112 Positron Emission Tomography (PET)

Positron emission tomography (PET) is a minimally invasive imaging procedure in which positron-emitting radionuclides, produced either by a cyclotron or by a radio-pharmaceutical producing generator, and a gamma camera are used to create pictures of organ function rather than structure. PET scans provide physicians a crucial assessment of the ability of specific tissues to function normally.

PET can provide unique clinical information in an economically viable manner, resulting in a diagnostic accuracy that affects patient management. PET scans provide diagnostic and prognostic patient information regarding cognitive disorders; for example, identifying the differences between Alzheimer's, Parkinson's, dementia, depression, cerebral disorders, and mild memory loss. PET scans also provide information regarding psychiatric disease, brain tumors, epilepsy, cardiovascular disease, movement disorders, and ataxia. Research shows that clinical PET may obviate the need for other imaging procedures.

PET installations generally take one of two forms: a scanner using only generator-produced tracers (basic PET unit) or a scanner with a cyclotron (enhanced PET unit). The rubidium-82 is the only generator approved by the FDA to produce radiopharmaceuticals. Rubidium limits PET services to cardiac perfusion imaging.

A PET scanner supported by a cyclotron can provide the capabilities for imaging a broader range of PET services, such as oncology, neurology, and cardiology. Manufacturers of PET equipment are providing more user-friendly cyclotrons, radiopharmaceutical delivery systems, and scanners which have drastically reduced personnel and maintenance requirements. These changes have made the cost of PET studies comparable to those of other high-technology studies.

Cardiology Associates of North Mississippi located in Tupelo, Mississippi (Lee County) has a fixed PET unit and performs Cardiac/PET procedures (pet scans/imaging of the heart). For FY 2013, Cardiology Associates of North Mississippi performed 1,596 procedures.

Table 5-9 presents the location, type (fixed or mobile), and utilization of PET equipment throughout the state in 2013.

Table 5-9
Location and Number of PET Procedures by Service Area
FY 2013

Facility	Location	Type of Equipment	Number of PET Procedures
General Hospital Service Area 1			**374**
Baptist Memorial Hospital - DeSoto	Southhaven	M	374
General Hospital Service Area 2			**1,692**
Magnolia Regional Health Center	Corinth	M	342
North Mississippi Medical Center	Tupelo	F	1,350
General Hospital Service Area 3			**630**
Bethesda Regional Cancer Treatment Center[1]	Clarksdale	M	159
Bolivar Medical Center	Cleveland	M	32
Delta Regional Medical Center (Main Campus)	Greenville	M	295
Greenwood Leflore Hospital	Greenwood	M	144
General Hospital Service Area 4			**2,002**
Baptist Memorial Hospital - Golden Triangle	Columbus	F	1,064
Baptist Memorial Hospital - North Miss	Oxford	F	701
Grenada Diagnostics Radiology, LLC[1]	Grenada	M	237
General Hospital Service Area 5			**6,265**
Central Miss Medical Center	Jackson	F	343
Mississippi Baptist Medical Center	Jackson	F (2)	2,930
St. Dominic Hospital	Jackson	F	1,011
University Hospital & Health System	Jackson	F	1,948
Montfort Jones Memorial Hospital	Kosciusko	M	33
General Hospital Service Area 6			**285**
Anderson Regional Medical Center	Meridian	M	285
General Hospital Service Area 7			**652**
Natchez Regional Medical Center	Natchez	M	283
Southwest MS Regional Medical Center	McComb	M	369
General Hospital Service Area 8			**3,185**
Hattiesburg Clinic, P.A.[1]	Hattiesburg	F	2,612
South Central Regional Medical Center	Laurel	M	455
Wesley Medical Center	Hattiesburg	M	118
General Hospital Service Area 9			**1,545**
Biloxi Regional Medical Center	Biloxi	M	105
Garden Park Medical Center	Gulfport	M	60
Memorial Hospital at Gulfport	Gulfport	F	668
Ocean Springs Hospital	Ocean Springs	M	327
Singing River Hospital	Pascagoula	M	385
State Total			**16,630**

1 Indicates freestanding clinics.

NOTES: Delta Cancer Institute CON approved but CON was amended. Delta RMC (Main Campus) provides service. Cardiology Associates of North MS was CON approved in 2011 to provide Cardiac/PET services.
*Imaging Center at Bridgepoint, LLC in Tupelo (Lee County) was CON approved 12/2011 to offer PET services; however the proposed project was never completed.

Sources: Applications for Renewal of Hospital License for Calendar Years 2014; Fiscal Year 2012 Annual Hospital Report; FY 2011 PET Utilization Survey

112.01 Certificate of Need Criteria and Standards for Magnetic Resonance Imaging Services (MRI)

Note: Should the Mississippi State Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi State Department of Health.

112.01.01 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Magnetic Resonance Imaging (MRI) Equipment and/or the Offering of MRI Services

1. CON Review Requirements: The Certificate of Need process regarding the acquisition or otherwise control of MRI equipment and/or the offering of MRI services involves separate requirements for CON review: (a) an entity proposing to acquire or otherwise control MRI equipment must obtain a CON to do so if the capital expenditure for the MRI unit and related equipment exceeds $1,500,000; and (b) an entity proposing to offer MRI services which hasn't provided the service on a regular basis within the last twelve (12) months must obtain a CON before providing such services.

2. CON Approval Preference: The Mississippi State Department of Health shall give preference to those applicants proposing to enter into joint ventures utilizing mobile and/or shared equipment. However, the applicant must meet the applicable CON criteria and standards provided herein and the general criteria and standards contained in the currently approved *Mississippi Certificate of Need Review Manual*.

3. Mobile MRI: For purposes of this Plan, a mobile MRI unit is defined as an MRI unit operating at two or more host sites and that has a central service coordinator. The mobile MRI unit shall operate under a contractual agreement for the provision of MRI services at each host site on a regularly scheduled basis.

4. Conversion to Fixed: The conversion from mobile MRI service to fixed MRI service is considered the establishment of a new MRI service and requires CON review.

5. Utilization of Existing Units: No new MRI services shall be approved unless all existing MRI service in the applicant's defined service area performed an average of 1,700 MRI procedures per existing and approved MRI scanner during the most recent 12 month reporting period and the proposed new services would not reduce the utilization of existing providers in the service area.

6. Population-Based Formula: The MSDH shall use a population-based formula as presented at the end of this chapter when calculating MRI need. Also, the formula will use historical and projected use rates by service area and patient origin data. The population-based formula is based on the most recent population projections prepared by the Center for Policy Research and Planning of the Institutions of Higher Learning. The applicant shall project a reasonable population base to justify the provision of 2,700 procedures (or 1,700 procedures for rural hospitals*)* by the second year of operation.

7. Mobile Service Volume Proration**:** The required minimum service volumes for the establishment of services and the addition of capacity for mobile services shall be prorated on a "site by site" basis based on the amount of time the mobile services will be operational at each site.

8. Addition of a Health Care Facility: An equipment vendor who proposes to add a health care facility to an existing or proposed route must notify the Department in writing of any proposed changes, i.e., additional health care facilities or route deviations, from those presented in the Certificate of Need application prior to such change.

112.01.02 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Magnetic Resonance Imaging (MRI) Equipment and/or the Offering of MRI Services

The Mississippi State Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of MRI equipment and/or the offering of MRI services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi State Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of MRI equipment is reviewable if the equipment cost is in excess of $1,500,000; if the equipment and/or service is relocated; and if the proposed provider of MRI services has not provided such services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

112.01.03 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of MRI Equipment

1. **Need Criterion: The entity desiring to acquire or otherwise control the MRI equipment shall demonstrate a minimum of 2,700 procedures per year by the end of the second year of operation; provided, however, that MRI equipment exclusively servicing rural hospitals (those located outside U.S. Census Bureau Metropolitan Statistical Areas with 75 or less beds) shall be required to demonstrate a minimum of 1,700 procedures per year by the end of the second year of operation. This criterion includes both fixed and mobile MRI equipment. The applicant must show the methodology used for the projections.**

    a. **Applicants for non-hospital based MRI facilities may submit affidavits from referring physicians. MRI procedures projected in affidavits shall be based on actual MRI procedures referred during the year.**

    b. **The applicant shall document a reasonable population base to document that a minimum of 2,700 procedures will be performed per proposed MRI unit (or 1,700 procedures per year for a mobile MRI route exclusively serving rural hospitals).**

c. The applicant shall demonstrate that all existing units within its defined service area have performed an average of 1,700 procedures for the most recent 12-month period.

It is recognized that an applicant desiring to acquire or otherwise control an MRI unit may make or propose to make the MRI unit available to more than one provider of MRI services, some of which may be located outside of Mississippi. In such cases all existing or proposed users of the MRI unit must jointly meet the required service volume of 2,700 (or 1,700 for mobile MRI route exclusively serving rural hospitals) procedures annually. If the MRI unit in question is presently utilized by other providers of MRI services, the actual number of procedures performed by them during the most recent 12-month period and/or documented projections of physician referrals may be used.

2. In order to receive CON approval to acquire or otherwise control MRI equipment, the applicant shall provide a copy of the proposed contract and document the following:

   a. that the equipment is FDA approved;

   b. that only qualified personnel will be allowed to operate the equipment; and

   c. that if the equipment is to be rented, leased, or otherwise used by other qualified providers on a contractual basis, no fixed/minimum volume contracts will be permitted.

3. Applicants shall provide written assurance that they will record and maintain, at a minimum, the following information and make it available to the Mississippi State Department of Health:

   a. all facilities which have access to the equipment;

   b. utilization by each facility served by the equipment, e.g., days of operation, number of procedures, and number of repeat procedures;

   c. financial data, e.g., copy of contracts, fee schedule, and cost per scan; and

   d. demographic and patient origin data for each facility.

   In addition, if required by the Department, the above referenced information and other data pertaining to the use of MRI equipment will be made available to the MSDH within 15 business days of request. The required information may also be requested for entities outside of Mississippi that use the MRI equipment in question.

4. The entity desiring to acquire or otherwise control the MRI equipment must be a registered entity authorized to do business in Mississippi.

5. Before the specified equipment can be utilized, the applicant desiring to provide the MRI equipment shall have CON approval or written evidence that the equipment is exempt from CON approval, as determined by the Mississippi State Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

112.01.04 Certificate of Need Criteria and Standards for the Offering of Fixed or Mobile MRI Services

An entity proposing to offer MRI services shall obtain Certificate of Need (CON) approval before offering such services.

1. **Need Criterion: The entity desiring to offer MRI services must document that the equipment shall perform a minimum of 2,700 procedures (or 1,700 procedures for rural hospitals) by the end of the second year of operation. This criterion includes both fixed and mobile MRI equipment. The applicant must show methodology used for the projections.**

   a. **Applicants for non-hospital based MRI facilities may submit affidavits from referring physicians. MRI procedures projected in affidavits shall be based on actual MRI procedures referred during the year.**

   b. **The applicant shall document a reasonable population within its service area to justify 2,700 procedures per year per proposed MRI unit (1,700 procedures per year per proposed mobile MRI unit on a route exclusively serving rural hospitals).**

   c. **The applicant shall demonstrate that all existing units within its defined service area have performed an average of 1,700 procedures for the most recent 12-month period.**

   It is recognized that a particular MRI unit may be utilized by more than one provider of MRI services, some of which may be located outside of Mississippi. In such cases all existing or proposed providers of MRI services must jointly meet the required service volume of 2,700 (or 1,700 for mobile MRI route exclusively serving rural hospitals) procedures annually by the end of the second year of operation. If the MRI unit in question is presently utilized by other providers of MRI services, the actual number of procedures performed by them during the most recent 12-month period and/or documented projection of physician referrals may be used instead of the formula projections.

2. An applicant desiring to offer MRI services must document that a full range of diagnostic imaging modalities for verification and complementary studies will be available at the time MRI services begin. These modalities shall include, but not be limited to, computed tomography (full body), ultrasound, angiography, nuclear medicine, and conventional radiology.

3. All applicants proposing to offer MRI services shall give written assurance that, within the scope of its available services, neither the facility where the service is provided nor its participating medical personnel shall have policies or procedures which would exclude patients because of race, color, age, sex, ethnicity, or ability to pay.

4. The applicant must document that the following staff will be available:

   a. Director - A full-time, board eligible radiologist or nuclear medicine imaging physician, or other board eligible licensed physician whose primary responsibility

during the prior three years has been in the acquisition and interpretation of clinical images. The Director shall have knowledge of MRI through training, experience, or documented post-graduate education. The Director shall document a minimum of one week of full-time training with a functional MRI facility.

b. One full-time MRI technologist-radiographer or a person who has had equivalent education, training, and experience, who shall be on-site at all times during operating hours. This individual must be experienced in computed tomography or other cross-sectional imaging methods, or must have equivalent training in MRI spectroscopy.

5. The applicant shall document that when an MRI unit is to be used for experimental procedures with formal/approved protocols, a full-time medical physicist or MRI scientist (see definition in Glossary) with at least one year of experience in diagnostic imaging shall be available in the facility.

6. The applicant shall provide assurances that the following data regarding its use of the MRI equipment will be kept and made available to the Mississippi State Department of Health upon request:

   a. Total number of procedures performed

   b. Number of inpatient procedures

   c. Number of outpatient procedures

   d. Average MRI scanning time per procedure

   e. Average cost per procedure

   f. Average charge per procedure

   g. Demographic/patient origin data

   h. Days of operation

   In addition to the above data recording requirements, the facility should maintain the source of payment for procedures and the total amounts charged during the fiscal year when it is within the scope of the recording system.

7. Before the service can be provided, the CON applicant desiring to offer MRI services shall provide written evidence that the specified MRI equipment provider has received CON approval or is exempt from CON approval as determined by the Mississippi State Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

112.01.05 Population-Based Formula for Projection of MRI Service Volume

X * Y ÷1,000 = V

Where, X = Applicant's Defined Service area population

Y = Mississippi MRI Use Rate*

V = Expected Volume

****Use Rate shall be based on information in the State Health Plan***

113 Certificate of Need Criteria and Standards for Diagnostic Imaging Services

Note: Should the Mississippi State Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi State Department of Health.

113.01 Certificate of Need Criteria and Standards for Digital Subtraction Angiography

The Mississippi State Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of Digital Subtraction Angiography (DSA) equipment and associated costs under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi State Department of Health; and the specific criteria and standards listed below.

Certificate of Need review is required when the capital expenditure for the purchase of Digital Subtraction Angiography equipment and associated costs exceed $1,500,000, or when the equipment is to be used for invasive procedures, i.e., the use of catheters. The offering of diagnostic imaging services of an invasive nature, i.e. invasive digital angiography, is reviewable if those services have not been provided on a regular basis by the proposed provider of such services within the period of twelve (12) months prior to the time such services would be offered.

1. **Need Criterion: The applicant for DSA services shall demonstrate that proper protocols for screening, consultation, and medical specialty backup are in place before services are rendered by personnel other than those with specialized training.**

For example, if a radiologist without specialized training in handling cardiac arrhythmia is to perform a procedure involving the heart, a cardiologist/cardiosurgeon must be available for consultation/backup.

The protocols shall include, but are not limited to, having prior arrangements for consultation/backup from:

a. a cardiologist/cardiosurgeon for procedures involving the heart;

b. a neurologist/neurosurgeon for procedures involving the brain; and

c. a vascular surgeon for interventional peripheral vascular procedures.

2. Before utilizing or providing the equipment or service, the applicant desiring to provide the digital subtraction angiography equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi State Department of Health.

113.02 Positron Emission Tomography (PET) Equipment and Services

113.02.01 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of a Positron Emission Tomography (PET) Scanner and Related Equipment including Cardiac only PET Scanner

1. CON Review Requirements: Applicants proposing the acquisition or otherwise control of a PET scanner shall obtain a CON to do so if the capital expenditure for the scanner and related equipment exceeds $1,500,000.

2. Indigent/Charity Care: An applicant shall be required to provide a "reasonable amount" of indigent/charity care as described in Chapter I of this Plan.

3. Service Areas: The state as a whole shall serve as a single service area in determining the need for a PET scanner. In the case of Cardiac only PET Scanner, the service area will be the General Hospital Service Areas.

4. Equipment to Population Ratio: The need for a PET scanner is estimated to be one scanner per 300,000 population. The MSDH will consider out-of-state population in determining need only when the applicant submits adequate documentation acceptable to the MSDH, such as valid patient origin studies. In the case of Cardiac only PET Scanner, this policy will not apply.

5. Access to Supplies: Applicants must have direct access to appropriate radio-pharmaceuticals.

6. Services and Medical Specialties Required: The proposed PET unit must function as a component of a comprehensive inpatient or outpatient diagnostic service. The proposed PET unit must have the following modalities (and capabilities) on-site or through contractual arrangements:

    a. Computed tomography - (whole body)

    b. Magnetic resonance imaging - (brain and whole body)

    c. Nuclear medicine - (cardiac, SPECT)

    d. Conventional radiography

    e. The following medical specialties during operational hours:

        i. Cardiology

        ii. Neurology

        iii. Neurosurgery

        iv. Oncology

        v. Psychiatry

        vi. Radiology

7. Hours of Operation: PET facilities should have adequate scheduled hours to avoid an excessive backlog of cases.

8. CON Approval Preference: The MSDH may approve applicants proposing to enter joint ventures utilizing mobile and/or shared equipment.

9. CON Requirements: The criteria and standards contained herein pertain to both fixed and/or mobile PET scanner equipment.

10. CON Exemption: Nothing contained in these CON criteria and standards shall preclude the University of Mississippi School of Medicine from acquiring and operating a PET scanner and a Cardiac only PET Scanner, provided the acquisition and use of such equipment is justified by the School's teaching and/or research mission. However, the requirements listed under the section regarding the granting of "appropriate scope of privileges for access to the scanner to any qualified physician" must be met. The MSDH shall not consider utilization of equipment/services at any hospital owned and operated by the state or its agencies when reviewing CON applications.

11. Addition to a Health Care Facility: An equipment vendor who proposes to add a health care facility to an existing or proposed route must notify the Department in writing of any proposed changes from those presented in the Certificate of Need application prior to such change, i.e., additional health care facilities or route deviations.

12. Equipment Registration: The applicant must provide the Department with the registration/serial number of the CON-approved PET scanner.

13. Certification: If a mobile PET scanner, the applicant must certify that only the single authorized piece of equipment and related equipment vendor described in the CON application will be utilized for the PET service by the authorized facility/facilities.

14. Conversion from mobile to fixed service: The conversion from mobile PET service site to a fixed PET service site is considered the establishment of a new service and requires CON review.

113.02.02 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of a Positron Emission Tomography (PET) Scanner and Related Equipment including Cardiac only PET Scanner

The Mississippi State Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of a PET scanner and related equipment under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general review criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi State Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of a PET scanner and related equipment is reviewable if the equipment cost is in excess of $1,500,000, or if the equipment is relocated. The offering of PET services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion:

a. The entity desiring to acquire or to otherwise control the PET scanner must project a minimum of 1,000 clinical procedures per year and must show the methodology used for the projection.

b. The applicant shall document a minimum population of 300,000 per PET scanner unit. The Division of Health Planning and Resource Development population projections shall be used. In the case of Cardiac only PET Scanner, this Criterion will not apply.

2. The entity desiring to acquire or otherwise control the PET equipment must be a registered entity authorized to do business in Mississippi.

3. The MSDH will approve additional PET equipment in a service area with existing equipment only when it is demonstrated that the existing PET equipment in that service area is performing an average of 1,500 clinical procedures per PET unit per year (six clinical procedures per day x 250 working days per year). For purposes of this Criterion, PET and Cardiac only PET are to be evaluated separately.

4. The application shall affirm that the applicant shall receive approval from the Division of Radiological Health for the proposed site, plans, and equipment before service begins.

5. The applicant shall provide assurances that the following data regarding the PET equipment will be kept and made available to the Mississippi State Department of Health upon request:

    a. total number of procedures performed;

    b. total number of inpatient procedures (indicate type of procedure);

    c. total number of outpatient procedures (indicate type of procedure);

    d. average charge per specific procedure;

    e. hours of operation of the PET unit;

    f. days of operation per year; and

    g. total revenue and expense for the PET unit for the year.

6. The applicant shall provide a copy of the proposed contract and document that if the equipment is to be rented, leased, or otherwise used by other qualified providers on a contractual basis, no fixed/minimum volume contracts will be permitted.

7. Before the specified equipment can be utilized, the applicant desiring to provide the PET equipment shall have CON approval or written evidence that the equipment is exempt from CON approval as determined by the Mississippi State Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

113.02.03 Certificate of Need Criteria and Standards for the Offering of Fixed or Mobile Positron Emission Tomography (PET) Services including Cardiac only PET Scanner

The offering of fixed or mobile PET services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion: The entity desiring to offer PET services must document that the equipment shall perform a minimum of 1,000 clinical procedures per year and must show the methodology used for the projection.

2. It is recognized that a particular PET unit may be utilized by more than one provider of PET services, some of which may be located outside of Mississippi. In such cases all existing or proposed providers of PET services utilizing the same PET unit must jointly meet the required service volume of 1,000 procedures annually. If the PET unit in question is presently utilized by other providers of PET services, the actual number of procedures performed by them during the most recent 12-month period may be used.

3. An applicant proposing to provide new or expanded PET services must include written assurances in the application that the service will be offered in a physical environment that

conforms to federal standards, manufacturer's specifications, and licensing agencies' requirements. The following areas are to be addressed:

a. quality control and assurance of radiopharmaceutical production of generator or cyclotron-produced agents;

b. quality control and assurance of PET tomograph and associated instrumentation;

c. radiation protection and shielding; and

d. radioactive emissions to the environment.

4. The application shall affirm that the applicant shall receive approval from the Division of Radiological Health for the proposed site, plans, and equipment before service begins.

5. The applicant shall document provision of an on-site medical cyclotron for radionuclide production and a chemistry unit for labeling radiopharmaceuticals; or an on-site rubidium-82 generator; or access to a supply of cyclotron-produced radiopharmaceuticals from an off-site medical cyclotron and a radiopharmaceutical production facility within a two-hour air transport radius.

6. Applicants for PET shall document that the necessary qualified staff are available to operate the proposed unit. The applicant shall document the PET training and experience of the staff. The following minimum staff shall be available to the PET unit:

   a. If operating a fixed PET unit, one or more nuclear medicine imaging physician(s) available to the PET unit on a full-time basis (e.g., radiologist, nuclear cardiologist) who have been licensed by the state for the handling of medical radionuclides and whose primary responsibility for at least a one-year period prior to submission of the Certificate of Need application has been in acquisition and interpretation of tomographic images. This individual shall have knowledge of PET through training, experience, or documented postgraduate education. The individual shall also have training with a functional PET facility.

   b. If operating a cyclotron on site, a qualified PET radiochemist or radiopharmacist personnel, available to the facility during PET service hours, with at least one year of training and experience in the synthesis of short-lived positron emitting radiopharmaceuticals. The individual(s) shall have experience in the testing of chemical, radiochemical, and radionuclidic purity of PET radiopharmaceutical syntheses.

   c. Qualified engineering and physics personnel, available to the facility during PET service hours, with training and experience in the operation and maintenance of the PET equipment. Engineering personnel are not required on-site for mobile PET units.

   d. Qualified radiation safety personnel, available to the facility at all times, with training and experience in the handling of short-lived positron emitting nuclides. If a medical cyclotron is operated on-site, personnel with expertise in radiopharmacy, radiochemistry, and medical physics would also be required.

e. Certified nuclear medicine technologists with expertise in computed tomographic nuclear medicine imaging procedures, at a staff level consistent with the proposed center's expected PET service volume.

f. Other appropriate personnel shall be available during PET service hours which may include certified nuclear medicine technologists, computer programmers, nurses, and radio-chemistry technicians.

7. The applicant shall demonstrate how medical emergencies within the PET unit will be managed in conformity with accepted medical practice.

8. The applicant shall affirm that, in addition to accepting patients from participating institutions, facilities performing clinical PET procedures shall accept appropriate referrals from other local providers. These patients shall be accommodated to the extent possible by extending the hours of service and by prioritizing patients according to standards of need and appropriateness rather than source of referral.

9. The applicant shall affirm that protocols will be established to assure that all clinical PET procedures performed are medically necessary and cannot be performed as well by other, less expensive, established modalities.

10. Applicants will be required to maintain current listings of appropriate PET procedures for use by referring physicians.

11. The applicant shall provide assurances that the following data regarding the PET service will be kept and made available to the Mississippi State Department of Health upon request:

    a. total number of procedures performed; total number of inpatient procedures (indicate type of procedure);

    b. total number of outpatient procedures (indicate type of procedure);

    c. average charge per specific procedure;

    d. hours of operation of the PET unit;

    e. days of operation per year; and

    f. total revenue and expense for the PET unit for the year.

12. Before the specified service can be provided, the applicant desiring to offer the PET service shall provide written evidence that the specified PET equipment provider has CON approval or written evidence that the equipment is exempt from CON approval as determined by the Mississippi State Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

CERTIFICATE OF NEED

CRITERIA AND STANDARDS
FOR
CARDIAC CATHETERIZATION SERVICES

114 Cardiac Catheterization

Cardiac catheterization, predominately a diagnostic tool that is an integral part of cardiac evaluation, brings together two disciplines: cardiac catheterization (the evaluation of cardiac function) and angiography (X-ray demonstration of cardiac anatomy). Cardiac catheterization includes various therapeutic interventions: including but not limited to: percutaneous coronary interventions (PCI), thrombolysis of coronary clots in evolving myocardial infarctions, electrical ablation of abnormal conduction pathways, and closure of patent ductus arteriosus in infants.

Any facility performing diagnostic cardiac catheterizations without open-heart surgery capability must maintain formal referral agreements with a nearby facility to provide emergency cardiac services, including open-heart surgery. Such a facility must also delineate the steps it will take to ensure that high-risk or unstable patients are not catheterized in the facility. Additionally, a facility without open-heart surgery capability must document that more complex procedures are not performed in the facility. Such procedures include, but are not limited to: percutaneous coronary interventions (PCI), transseptal puncture, transthoracic left ventricular puncture, and myocardial biopsy.

Section 41-7-191(1)(d), Mississippi Code of 1972, as amended, requires Certificate of Need review for the establishment and/or offering of cardiac catheterization services if the proposed provider has not offered such services on a regular basis within 12 months prior to the time the services would be offered. Table 5-10 presents the utilization of cardiac catheterization services in 2013.

Table 5-10
Cardiac Catheterizations by Facility and Type
by Cardiac Catherization/Open Heart Planning Area (CC/OHSPA)
FY 2012 and FY 2013

Facility	County	Total Adult Procedures		Total Pediatric Procedures		Total PTCA Procedures		# Labs
		2012	2013	2012	2013	2012	2013	2013
CC/OHSPA 1		**2,928**	**2,789**	**0**	**0**	**0**	**260**	**4**
Baptist Memorial Hospital-DeSoto	DeSoto	2,928	2,784	0	0	0	260	3
Methodist Healthcare Olive Branch Hospital	DeSoto	-	5	0	0	0	0	1
CC/OHSPA 2		**9,721**	**13,002**	**0**	**0**	**319**	**391**	**6**
Magnolia Regional Health Center	Alcorn	2,058	4,728	0	0	128	167	2
North Mississippi Medical Center	Lee	7,663	8,274	0	0	191	224	4
CC/OHSPA 3		**1,188**	**1,680**	**0**	**0**	**186**	**179**	**4**
Delta Regional Medical Center	Washington	830	944	0	0	186	179	2
Greenwood Leflore Hospital	LeFlore	-	0	0	0	0	0	1
Northwest MS RMC - Main Campus*	Coahoma	358	736	0	0	0	0	1
CC/OHSPA 4		**2,151**	**2,285**	0	0	**577**	**757**	**5**
Baptist Memorial Hospital-Golden Triangle	Lowndes	827	889	0	0	223	281	2
Baptist Memorial Hospital-N. Mississippi	Lafayette	1,324	1,282	0	0	354	476	2
UMMC Grenada*	Grenada	-	114	0	0	0	0	1
CC/OHSPA 5		**16,434**	**15,096**	**570**	**1,681**	**2,944**	**2,289**	**22**
Central Mississippi Medical Center	Hinds	1,180	691	0	0	289	172	3
Mississippi Baptist Medical Center	Hinds	4,326	3,757	0	0	1,143	939	5
Rankin Cardiology Center*•	Rankin	120	119	0	0	0	0	1
River Region Health System	Warren	1,230	1,536	0	0	314	241	3
St. Dominic-Jackson Memorial Hospital	Hinds	6,661	5,931	0	0	1,163	877	7
University Hospital & Health Systems	Hinds	2,917	3,062	570	1681	35	60	3
CC/OHSPA 6		**3,889**	**3,083**	**0**	**0**	**946**	**713**	**5**
Anderson Regional Medical Center	Lauderdale	1,254	1,344	0	0	809	705	3
Anderson Regional Medical Center -South* [1]	Lauderdale	-	-	0	0	0	0	0
Rush Foundation Hospital	Lauderdale	2,635	1,739	0	0	137	8	2
CC/OHSPA 7		**1,364**	**1,271**	0	0	**310**	**288**	**4**
Natchez Regional Medical Center *	Adams	399	257	0	0	0	0	1
SW Miss Regional Medical Center	Pike	965	1,014	0	0	310	288	3
CC/OHSPA 8		**4,367**	**4,131**	**0**	**0**	**1,267**	**1,000**	**7**
Forrest General Hospital	Forrest	2,543	2,472	0	0	915	817	4
South Central Regional Medical Center*	Jones	520	521	0	0	0	0	1
Wesley Medical Center	Lamar	1,304	1,138	0	0	352	183	2
CC/OHSPA 9		**5,554**	**6,263**	**0**	**0**	**1,962**	**2,219**	**9**
Biloxi Regional Medical Center*	Harrison	109	100	0	0	0	0	1
Memorial Hospital at Gulfport	Harrison	3,014	2,380	0	0	719	841	4
Ocean Springs Hospital	Jackson	1,377	2,185	0	0	712	829	2
Singing River Hospital	Jackson	1,054	1,598	0	0	531	549	2
State Total		**47,596**	**49,600**	**570**	**1,681**	**8,511**	**8,096**	**66**

*Diagnostic Catheterizations only

•Provides Diagnostic Cardiac Catheterizations for Rankin Medical Center, Women's Hospital, and River Oaks Hospital patients, at River Oaks Hospital Campus

[1] Anderson RMC provides Diagnostic Cardiac Catheterizations for Anderson RMC- South fka Riley Hospital.

NOTE: Cardiology Associates of North MS was CON approved in 2011 to provide Cardiac/PET services.

Sources: Applications for Renewal of Hospital License for Calendar Years 2013 and 2014, and Fiscal Years 2012 and 2013 Annual Hospital Reports.

115 Certificate of Need Criteria and Standards for Cardiac Catheterization Services and Open-Heart Surgery Services

Note: Should the Mississippi State Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manua*l and all adopted rules, procedures, and plans of the Mississippi State Department of Health.

115.01 Joint Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Cardiac Catheterization Equipment and/or the Offering of Cardiac Catheterization Services and the Acquisition of Open-Heart Surgery Equipment and/or the Offering of Open-Heart Surgery Services

Heart disease remains the leading cause of death in Mississippi as incidence rates continue to increase, particularly among the African-American population. Studies show that minorities have a higher cardiovascular death rate than whites and are less likely to receive cardiac catheterization and open-heart surgery services than are whites. The disproportionate impact on minorities' health status in general is recognized elsewhere in this *State Health Plan*.

Innovative approaches to address these problems in the cardiac area are needed. It has been shown that statistical methods, such as population base and optimum capacity at existing providers, are not accurate indicators of the needs of the underserved, nor do they address the accessibility of existing programs to the underserved. The goal of these revisions to the State Health Plan is to improve access to cardiac care and to encourage the establishment of additional cardiac catheterization and open-heart surgery programs within the state that can serve the poor, minorities, and the rural population in greater numbers.

To further this goal, the MSDH adopted the following standards:

1. A minimum population base standard of 100,000;

2. The establishment of diagnostic cardiac catheterization services with a caseload of 300 diagnostic catheterization procedures;

3. The establishment of therapeutic cardiac catheterization services with a caseload of 450 diagnostic and therapeutic catheterization procedures;

4. The establishment of open-heart surgery programs with a caseload of 150 open-heart surgeries; and,

5. A minimum utilization of equipment/services at existing providers of 450 cardiac catheterizations, diagnostic and therapeutic, and when applicable, 150 open-heart surgeries.

The MSDH also adopted a provision that it shall not consider utilization of equipment/services at any hospital owned and/or operated by the state or its agencies when reviewing CON applications. The MSDH further adopted standards requiring an applicant to report information regarding catheterization and open-heart programs so as to monitor the provision of care to the medically underserved and the quality of that care.

The MSDH shall interpret and implement all standards in this *Plan* in recognition of the stated findings and so as to achieve the stated goal.

115.02 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Cardiac Catheterization Equipment and/or the Offering of Cardiac Catheterization Services

1. Cardiac Catheterization Services: For purposes of the following CON criteria and standards, the term "cardiac catheterization services" or "catheterization services" shall include diagnostic cardiac catheterization services and therapeutic cardiac catheterization services.

    a. Diagnostic cardiac catheterization services are defined as, and refer to, cardiac catheterization services which are performed for the purpose of diagnosing, identifying, or evaluating cardiac related illness or disease. Diagnostic cardiac catheterization services include, but are not limited to, left heart catheterizations, right heart catheterizations, left ventricular angiography, coronary procedures, and other cardiac catheterization services of a diagnostic nature.

    b. Therapeutic cardiac catheterization services are defined as, and refer to, cardiac catheterization services which are performed for the purpose of actively treating, as opposed to merely diagnosing, cardiac-related illness or disease. Therapeutic cardiac catheterization services include, but are not limited to, all PCIs (including primary and elective), transseptal puncture, transthoracic left ventricular puncture and myocardial biopsy.

2. Open-Heart Surgery Capability: The MSDH shall not approve CON applications for the establishment of therapeutic cardiac catheterization services at any facility that does not have open-heart surgery capability; i.e., new therapeutic cardiac catheterization services may not be established and existing therapeutic cardiac catheterization services may not be extended without approved and operational open-heart surgery services in place. This policy does not preclude approval of a Certificate of Need application proposing the concurrent establishment of both therapeutic cardiac catheterization and open-heart surgery services. However, the Department may approve a qualifying applicant to perform percutaneous coronary intervention (PCI) services in a hospital without on-site cardiac surgery.

3. Service Areas: The need for cardiac catheterization equipment/services shall be determined using the nine designated Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPAs) presented in the Open Heart Surgery section of this chapter of the Plan. Map 5-2 shows the CC/OHSPAs.

4. CC/OHSPA Need Determination: The need for cardiac catheterization equipment/ services within a given CC/OHSPA shall be determined independently of all other CC/OHSPAs.

5. Pediatric Cardiac Catheterization: Because the number of pediatric patients requiring study is relatively small, the provision of cardiac catheterization for neonates, infants, and young children shall be restricted to those facilities currently providing the service. National standards indicate that a minimum of 150 cardiac catheterization cases should be done per year and that catheterization of infants should not be performed in facilities which do not have active pediatric cardiac-surgical programs.

6. Present Utilization of Cardiac Catheterization Equipment/Services: The MSDH shall consider utilization of existing equipment/services and the presence of valid CONs for equipment/services within a given CC/OHSPA when reviewing CON applications. The MSDH shall not consider utilization of equipment/services at any hospital owned and/or operated by the state or its agencies when reviewing CON applications. The Mississippi State Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

7. CON Application Analysis: At its discretion, the Department of Health may use market share analysis and other methodologies in the analysis of a CON application for the acquisition or otherwise control of cardiac catheterization equipment and/or the offering of cardiac catheterization services. The Department shall not rely upon market share analysis or other statistical evaluations if they are found inadequate to address access to care concerns.

8. Minimum CC/OHSPA Population: A minimum population base of 100,000 is required for applications proposing the establishment of cardiac catheterization services. The total population within a given CC/OHSPA shall be used when determining the need for services. Population outside an applicant's CC/OHSPA will be considered in determining need only when the applicant submits adequate documentation acceptable to the Mississippi State Department of Health, such as valid patient origin studies.

9. Minimum Caseload: Applicants proposing to offer adult diagnostic cardiac catheterization services must be able to project a caseload of at least 300 diagnostic catheterizations per year. Applicants proposing to offer adult therapeutic cardiac catheterization services must be able to project a caseload of at least 450 catheterizations, diagnostic and therapeutic, per year.

10. Residence of Medical Staff: Cardiac catheterizations must be under the control of and performed by personnel living and working within the specific hospital area. No site shall be approved for the provision of services by traveling teams.

11. Hospital-Based: All cardiac catheterizations and open-heart surgery services shall be located in acute care hospitals. The MSDH shall not approve Certificate of Need applications proposing the establishment of cardiac catheterization/open-heart surgery services in freestanding facilities or in freestanding ambulatory surgery facilities.

115.03 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Diagnostic Cardiac Catheterization Equipment and/or the Offering of Diagnostic Cardiac Catheterization Services

The Mississippi State Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of diagnostic cardiac catheterization equipment and/or the offering of diagnostic cardiac catheterization services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures and plans of the Mississippi State Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of diagnostic cardiac catheterization equipment is reviewable if the equipment costs exceed $1,500,000. The offering of diagnostic cardiac catheterization services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion: The applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed diagnostic cardiac catheterization equipment/service is to be located. Division of Health Planning and Resource Development population projections shall be used.

2. Minimum Procedures: An applicant proposing the establishment of diagnostic cardiac catheterization services only shall demonstrate that the proposed equipment/service utilization will be a minimum of 300 diagnostic cardiac catheterizations per year by its third year of operation.

3. Impact on Existing Providers: An applicant proposing to acquire or otherwise control diagnostic cardiac catheterization equipment and/or offer diagnostic cardiac catheterization services shall document that each existing unit, which is (a) in the CC/OHSPA and (b) within forty-five (45) miles of the applicant, has been utilized for a minimum of 450 procedures (both diagnostic and therapeutic) per year for the two most recent years as reflected in data supplied to and/or verified by the Mississippi State Department of Health. No hospital owned and/or operated by the state or its agencies shall be considered an existing unit in the CC/OHSPA under this section. The Mississippi State Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

4. Staffing Standards: The applicant shall document that it has, or can obtain, the ability to administer the proposed services, provide sufficiently trained and experienced professional staff, and evaluate the performance of the programs. Mississippi State Department of Health staff shall use guidelines presented in *Optimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities*, published under the auspices of the Inter-Society Commission for Heart Disease Resources, as resource materials when reviewing these items in an application.

5. Recording and Maintenance of Data: Applicants shall provide, as required under licensure standards, written assurance that they will record and maintain utilization data for diagnostic cardiac catheterization procedures (e.g., morbidity data, number of diagnostic cardiac catheterization procedures performed, and mortality data, all reported by race, sex, and payor status) and make such data available to the Mississippi State Department of Health annually.

6. Referral Agreement: An applicant proposing the establishment of diagnostic cardiac catheterization services only shall document that a formal referral agreement with a facility for the provision of emergency cardiac services (including open-heart surgery) will be in place and operational at the time of the inception of cardiac catheterization services.

7. Patient Selection: An applicant proposing to provide diagnostic cardiac catheterization services must (a) delineate the steps which will be taken to insure that high-risk or unstable patients are not catheterized in the facility, and (b) certify that therapeutic cardiac catheterization services will not be performed in the facility unless and until the applicant has received CON approval to provide therapeutic cardiac catheterization services.

8. Regulatory Approval: Before utilizing or providing the equipment or service, the applicant desiring to provide the diagnostic cardiac catheterization equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi State Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

115.04 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Therapeutic Cardiac Catheterization Equipment and/or the Offering Of Therapeutic Cardiac Catheterization Services

The Mississippi State Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of therapeutic cardiac catheterization equipment and/or the offering of therapeutic cardiac catheterization services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures and plans of the Mississippi State Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of therapeutic cardiac catheterization equipment is reviewable if the equipment costs exceed $1,500,000. The offering of therapeutic cardiac catheterization services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. **<u>Need Criterion</u>: The applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed therapeutic cardiac catheterization equipment/service is to be located. Division of Health Planning and Resource Development population projections shall be used.**

2. <u>Minimum Procedures</u>: An applicant proposing the establishment of therapeutic cardiac catheterization services shall demonstrate that the proposed equipment/service utilization will be a minimum of 450 cardiac catheterizations, both diagnostic and therapeutic, per year by its third year of operation and a minimum of 100 total PCIs.

3. <u>Impact on Existing Providers</u>: An applicant proposing to acquire or otherwise control therapeutic cardiac catheterization equipment and/or offer therapeutic cardiac catheterization services shall document that each existing unit which is (a) in the CC/OHSPA and (b) within 45 miles of the applicant, has been utilized for a minimum of 450 procedures (both diagnostic and therapeutic) per year for the two most recent years as reflected in data supplied to and/or verified by the Mississippi State Department of Health. No hospital owned and/or operated by the state or its agencies shall be considered an existing unit in the CC/OHSPA under this section. The Mississippi State Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

4. <u>Staffing Standards</u>: The applicant shall document that it has, or can obtain, the ability to administer the proposed services, provide sufficiently trained and experienced professional staff, and evaluate the performance of the programs. Mississippi State Department of Health staff shall use guidelines presented in O*ptimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities*, published under the auspices of the Inter-Society Commission for Heart Disease Resources, as resource materials when reviewing these items in an application.

5. <u>Staff Residency:</u> The applicant shall certify that medical staff performing therapeutic cardiac catheterization procedures shall be onsite within thirty (30) minutes.

6. <u>Recording and Maintenance of Data:</u> Applicants shall provide, as required under licensure standards, written assurance that they will record and maintain separate utilization data for diagnostic and therapeutic cardiac catheterization procedures (e.g., morbidity data, number of diagnostic and therapeutic cardiac catheterization procedures performed and mortality data, all reported by race, sex and payor status) and make that data available to the Mississippi State Department of Health annually.

7. <u>Open-Heart Surgery:</u> An applicant proposing the establishment of therapeutic cardiac catheterization services shall document that open-heart surgery services are available or will be available on-site where the proposed therapeutic cardiac catheterization services are to be offered before such procedures are performed. However, qualified applicants may submit an application to perform percutaneous coronary intervention (PCI) services in a hospital without on-site cardiac surgery. To qualify, the applicant must meet the current American College of Cardiology (ACCF), American Heart Association Task Force on Practice Guidelines (AHA) and the Society of Cardiovascular Angiography and Interventions (SCAI)-ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention and the following:

a. Perform a minimum of 50 total PCIs per year/per primary operator, including 12 primary PCIs per year/per facility.

b. Qualified operators have a life-time experience of greater than 150 total PCIs with acceptable outcomes as primary operator after completing fellowship or have completed an Interventional Cardiology fellowship.

c. Minimum of less than 120 minutes to accomplish transfer from the onset of PCI complications to cardiopulmonary bypass. The program must have a formal emergency transfer agreement with a hospital providing open heart surgery. Transporting of the patient to the receiving hospital must include the capability to provide an intra-aortic balloon pump (IABP).

d. Programs must project and annually perform a minimum of 100 total PCIs per year. New programs may demonstrate compliance in the second full year of operation and continue a two year average of 100 total PCIs per year to include at a minimum-12 primary PCIs per year. New programs should have 2 years to reach the absolute minimum volume, but after that, programs failing to reach this volume for 2 consecutive years should not remain open. The Mississippi State Department of Health has the discretion under a finding of rare or unique circumstances to grant exception to the above based on a finding of need of access and quality of care by the program.

e. New Programs must participate in the STEMI ("ST"-Segment Elevation Myocardial Infarction) Network.

f. At the present time in the United States, there is no justification for a PCI program without on-site surgery to perform only elective procedures or not provide availability to primary PCI 24 hours/365 days per year. The Mississippi State Department of Health has the discretion under a finding of rare or unique circumstances to grant exception to the above based on a finding of need of access and quality of care by the program.

8. Regulatory Approval: Before utilizing or providing the equipment or service, the applicant desiring to provide the cardiac catheterization equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi State Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

9. Applicants Providing Diagnostic Catheterization Services: An applicant proposing the establishment of therapeutic cardiac catheterization services, who is already an existing provider of diagnostic catheterization services, shall demonstrate that its diagnostic cardiac catheterization unit has been utilized for a minimum of 300 procedures per year for the two most recent years as reflected in the data supplied to and/or verified by the Mississippi State Department of Health.

OPEN-HEART SURGERY SERVICES

116 Open-Heart Surgery

Open-heart surgery, defined as any surgical procedure in which a heart-lung machine is used to maintain cardiopulmonary functioning, involves a number of procedures, including valve replacement, repair of cardiac defects, coronary bypass, heart transplantation, and artificial heart implant.

Section 41-7-191(1)(d), Mississippi Code of 1972, as amended, requires Certificate of Need review for the establishment and/or offering of open-heart surgery services if the proposed provider has not offered such services on a regular basis within 12 months prior to the time the services would be offered.

Table 5-11 presents the utilization of existing facilities. Map 5-2 in the Open Heart Surgery criteria and standards section shows the Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPAs) and the location of existing services.

Table 5-11
Number of Open-Heart Surgeries by Facility and Type
By Cardiac Catheterization/Open Heart Surgery Planning Area (CC/OHSPA)
FY 2012 and FY 2013

Facility	County	Number of Adult Open-Heart Procedures		Number of Pediatric Open-Heart Procedures		Number of Pediatric Heart Procedures (Less Open-Heart)	
		2012	2013	2012	2013	2012	2013
CC/OHSPA 1		**271**	**327**	**0**	**20**	**0**	**8**
Baptist Memorial Hospital - DeSoto	DeSoto	271	260	0	0	0	0
Methodist Healthcare Olive Branch Hospital	DeSoto	0	67	0	20	0	8
CC/OHSPA 2		**763**	**826**	**0**	**0**	**0**	**0**
Magnolia Regional Medical Center	Alcorn	129	174	0	0	0	0
North MS Medical Center	Lee	634	652	0	0	0	0
CC/OHSPA 3		**46**	**16**	**0**	**0**	**0**	**0**
Delta Regional Medical Center-Main Campus	Washington	46	16	0	0	0	0
CC/OHSPA 4		**146**	**116**	**0**	**0**	**0**	**0**
Baptist Memorial Hospital-Golden Triangle	Lowndes	54	55	0	0	0	0
Baptist Memorial Hospital-North Mississippi	Lafayette	92	61	0	0	0	0
CC/OHSPA 5		**860**	**804**	**212**	**223**	**179**	**186**
Central MS Medical Center	Hinds	45	62	0	0	0	0
MS Baptist Medical Center	Hinds	254	272	0	0	0	0
River Region Health System	Warren	128	115	0	0	0	0
St. Dominic Hospital	Hinds	285	190	0	0	0	0
University Hospital & Health System	Hinds	148	165	212	223	179	186
CC/OHSPA 6		**170**	**193**	**0**	**0**	**0**	**0**
Anderson Medical Center	Lauderdale	106	127	0	0	0	0
Rush Foundation Hospital	Lauderdale	64	66	0	0	0	0
CC/OHSPA 7		**49**	**37**	0	0	**0**	**0**
Southwest MS Regional Med. Center	Pike	49	37	0	0	0	0
CC/OHSPA 8		**692**	**731**	**0**	**0**	**0**	**0**
Forrest General Hospital	Forrest	550	601	0	0	0	0
Wesley Medical Center	Lamar	142	130	0	0	0	0
CC/OHSPA 9		**326**	**428**	**0**	**0**	**0**	**0**
Memorial Hospital at Gulfport	Harrison	115	156	0	0	0	0
Ocean Springs Hospital	Jackson	147	213	0	0	0	0
Singing River Hospital	Jackson	64	59	0	0	0	0
State Total		**3,323**	**3,478**	**212**	**243**	**179**	**194**

Sources: Applications for Renewal of Hospital License for Calendar Years 2013 and 2014, and Fiscal Years 2012 and 2013 Annual Hospital Reports

116.01 Policy Statement Regarding Certificate of Need Applications for the Acquisition of Open-Heart Surgery Equipment and/or the Offering of Open-Heart Surgery Services

1. Service Areas: The need for open-heart surgery equipment/services shall be determined using the nine designated Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPAs) presented in this chapter of the Plan. Map 5-2 shows the CC/OHSPAs.

2. CC/OHSPA Need Determination: The need for open-heart surgery equipment/services within a given CC/OHSPA shall be determined independently of all other CC/OHSPAs.

3. Pediatric Open-Heart Surgery: Because the number of pediatric patients requiring open-heart surgery is relatively small, the provision of open-heart surgery for neonates, infants, and young children shall be restricted to those facilities currently providing the service.

4. Present Utilization of Open-Heart Surgery Equipment/Services: The Mississippi State Department of Health shall consider utilization of existing open-heart surgery equipment/ services and the presence of valid CONs for open-heart surgery equipment/services within a given CC/OHSPA when reviewing CON applications. The MSDH shall not consider utilization of equipment/services at any hospital owned and/or operated by the state or its agencies when reviewing CON applications. The Mississippi State Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

5. CON Application Analysis: At its discretion, the Department of Health may use market share analysis and other methodologies in the analysis of a CON application for the acquisition or otherwise control of open-heart surgery equipment and/or the offering of open-heart surgery services. The Department shall not rely upon market share analysis or other statistical evaluations if they are found inadequate to address access to care concerns.

6. Minimum CC/OHSPA Population: A minimum population base of 100,000 in a CC/OHSPA (as projected by the Division of Health Planning and Resource Development) is required before such equipment/services may be considered. The total population within a given CC/OHSPA shall be used when determining the need for services. Population outside an applicant's CC/OHSPA will be considered in determining need only when the applicant submits adequate documentation acceptable to the Mississippi State Department of Health, such as valid patient origin studies.

7. Minimum Caseload: Applicants proposing to offer adult open-heart surgery services must be able to project a caseload of at least 150 open-heart surgeries per year.

8. Residence of Medical Staff: Open-heart surgery must be under the control of and performed by personnel living and working within the specific hospital area. No site shall be approved for the provision of services by traveling teams.

116.02 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Open-Heart Surgery Equipment and/or the Offering of Open-Heart Surgery Services

The Mississippi State Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of open-heart surgery equipment and/or the offering of open-heart surgery services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MSDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures and plans of the Mississippi State Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of open-heart surgery equipment is reviewable if the equipment cost in excess of $1,500,000. The offering of open-heart surgery services is reviewable if the proposed provider has not provided those services on a regular basis within twelve (12) months prior to the time such services would be offered.

1. **Need Criterion: The applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed open-heart surgery equipment/service is to be located. Division of Health Planning and Resource Development population projections shall be used.**

2. Minimum Procedures: The applicant shall demonstrate that it will perform a minimum of 150 open-heart surgeries per year by its third year of operation.

3. Impact on Existing Providers: An applicant proposing to acquire or otherwise control open-heart surgery equipment and/or offer open-heart surgery services shall document that each facility offering open-heart surgery services which is (a) in the CC/OHSPA and (b) within 45 miles of the applicant, has performed a minimum of 150 procedures per year for the two most recent years as reflected in data supplied to and/or verified by the Mississippi State Department of Health. No hospital owned and/or operated by the state or its agencies shall be considered an existing unit in the CC/OHSPA under this section. The Mississippi State Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

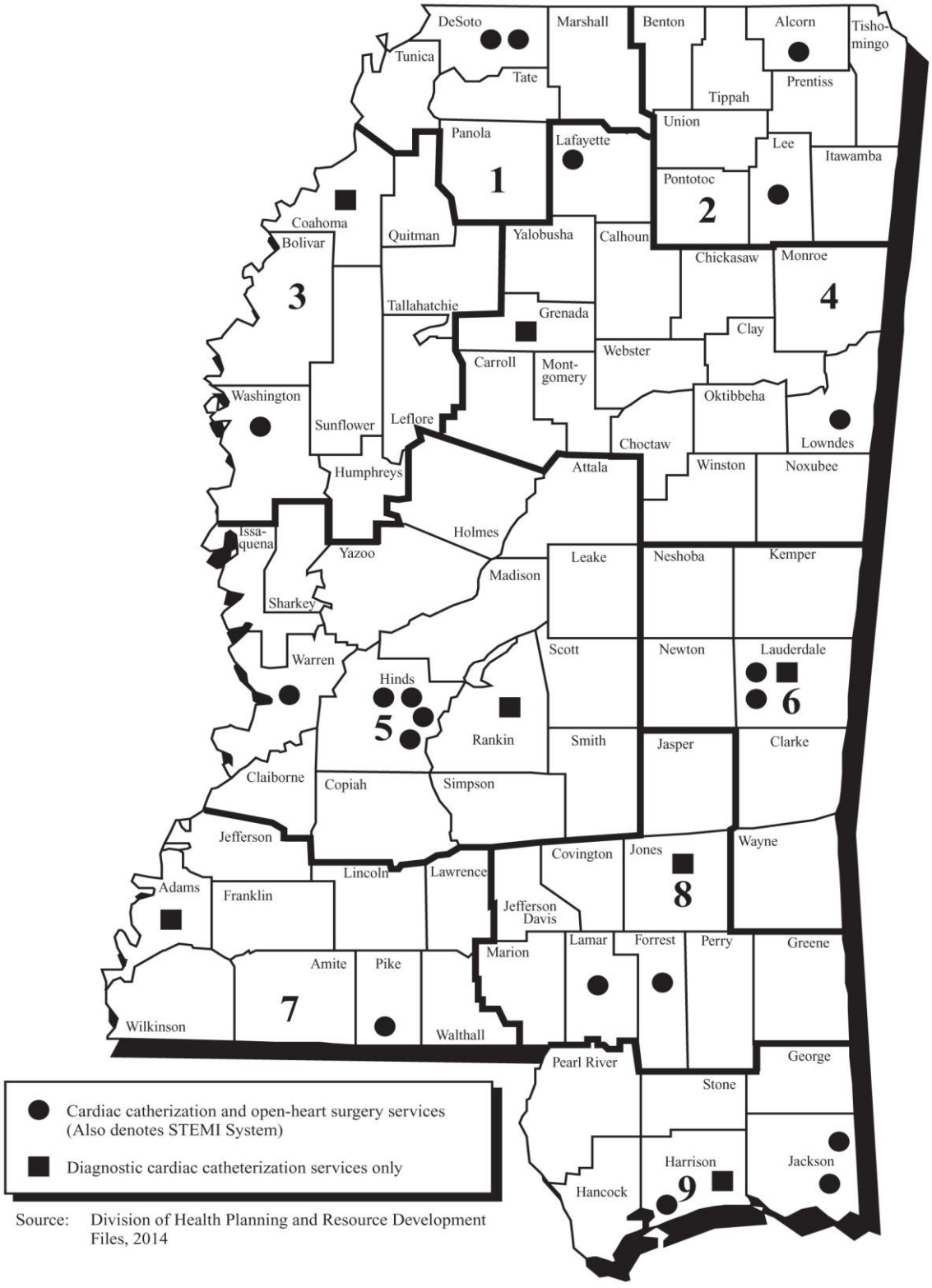
4. Staffing Standards: The applicant shall document that it has, or can obtain, the ability to administer the proposed services, provide sufficiently trained and experienced professional staff, and evaluate the performance of the programs. Department of Health staff shall use guidelines presented in Optimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities, published under the auspices of the Inter-Society Commission for Heart Disease Resources, and Guidelines and Indications for Coronary Artery Bypass Graft Surgery: A Report of the American College of Cardiology/American Heart Association Task Force on Assessment of Diagnostic and Therapeutic Cardiovascular Procedures (Subcommittee on Coronary Artery Bypass Graft Surgery), published under the auspices of the American College of Cardiology, as resource materials when reviewing these items in an application.

5. Staff Residency: The applicant shall certify that medical staff performing open-heart surgery procedures shall reside within forty-five (45) minutes normal driving time of the facility. The applicant shall document that proposed open-heart surgery procedures shall not be performed by traveling teams.

6. Recording and Maintenance of Data: Applicants shall provide, as required under licensure standards, written assurance that they will record and maintain utilization data for open-heart surgeries (e.g., morbidity data, number of open-heart surgeries performed and mortality data, all reported by race, sex, and payor status) and make such data available to the Mississippi State Department of Health annually.

7. Regulatory Approval: Before utilizing or providing the equipment or service, the applicant desiring to provide the open-heart surgery equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi State Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

Map 5-2
Cardiac Catherization/Open Heart Surgery
Planning Areas (CC/OHSPA)
and Location of Existing/CON-Approved Services



Source: Division of Health Planning and Resource Development Files, 2014

SYSTEMS OF CARE

117 Systems of Care

The four systems that comprise Mississippi's systems of care are: Emergency Medical Services (pre-hospital care), the Trauma Care System, the ST-Elevation Myocardial Infarction (STEMI) system, and the Acute Ischemic Stroke system. Mississippi is one of only six states that have multiple acute systems of care, and is the only state that has state-wide systems for Trauma, STEMI, and Stroke.

Each system of care has five key components: an organizational structure; protocols for the treatment of patients; an advisory group process, a performance/quality improvement process, and a data system.

118 Emergency Medical Services

In Mississippi, the Emergency Medical Services system is extraordinary in that member services and personnel not only provide the highest standards of pre-hospital care for the citizens and visitors of Mississippi, but ensure that patients are delivered to one of the many specialized facilities in one of the state's systems of care: the Trauma Care System, the STEMI System, or the Stroke System.

118.01 Organization

The Emergency Medical Services Act of 1973 (Miss. Code Ann. §63-13-11) established standards for the organization of emergency services. Prior to 1974, government involvement in emergency medical services was primarily limited to providing an emergency department in the public hospital. Private operators, predominantly funeral homes, provided emergency transportation.

Within the Department of Health, the Bureau of Emergency Medical Services organizes, regulates, and maintains a statewide program to improve emergency medical care. Further, it coordinates agency resources in "all-hazard" planning and response to disasters. This includes both incidents involving weapons of mass destruction as well as natural disasters, from hurricanes on the coast to ice storms in the Delta.

EMS Services are typically provided in response to a medical emergency reported through the 9-1-1 system. A 9-1-1 call placed from any telephone is automatically routed to the appropriate designated Public Safety Answering Point (PSAP).

Once the call is received, the nature of the medical emergency is determined, the call is prioritized, appropriate personnel and equipment are dispatched, and pre-arrival instructions are given if appropriate. The dispatcher may ask a number of questions to help assess the nature and severity of the injury or illness. At times the dispatcher may give the caller specific patient care instructions to maximize the success of the injury or illness outcome.

118.02 Protocols

When EMS professionals are called, the injured or ill person is often transported to the hospital in an ambulance. EMS professionals work under protocols approved by physicians designated as Medical Control. The physician oversees the care of patients in EMS systems, and is knowledgeable about patient care interventions and how EMS systems deliver care. Typically the physicians work in conjunction with local EMS managers to assure quality patient care. Emergency Medical Services may be provided by a fire department, an ambulance service, a county or government-based service, a hospital, or a combination of the above. EMS professionals may be paid or serve as volunteers in the community.

118.03 Advisory Group

In accordance with Miss. Code Ann. § 41-59-7, the Emergency Medical Services Advisory Council (EMSAC) is created, with membership appointed by the Governor.

118.04 Performance Improvement

The Medical Directors' Training and Quality Assurance (MDTQA) Committee provides performance improvement review of the EMS system, and develops model protocols for adoption by EMS services. The committee is chaired by the State EMS Medical Director, a board-certified emergency physician, and membership includes physicians who provide medical control to EMS services, EMS educators, and EMS practitioners.

118.05 Data System

The Mississippi EMS Information System (MEMSIS) uses a web-based system hosted by ImageTrend. The ImageTrend EMS State Bridge is a pre-hospital emergency data collection, analysis and reporting system. EMS State Bridge integrates information across the entire emergency medical community, whether in the ambulance, the local station, the county or state offices. With the EMS State Bridge, ambulance services are able to satisfy reporting requirements easily, without major investment and without learning complex new technology.

The system provides:

- Data collection based upon the NHTSA V2.2.1 data set.
- The aggregation of information from various units and the possibility of sharing this with other systems and agencies.
- Electronic transport of information to other systems and agencies to improve communications and to share pertinent information.
- Standard and ad hoc reporting to turn data into useful information.
- Easy expansion through its open architecture as needs grow and evolve.
- Scalability to conform to the needs of small, medium and large services as required.

Additionally, the system is HIPAA compliant and sensitive to medical data security issues. The application meets and exceeds state and federal data privacy requirements.

119 Mississippi Trauma Care System

Trauma is the leading cause of death for all age groups in Mississippi from birth to age 44. Serious injury and death resulting from trauma events such as vehicle crashes, falls, and firearms claim 500 lives and disable 6,000 Mississippians each year. Trauma victims require immediate, expert attention.

119.01 Organization

Through the State Trauma Plan, MSDH has designated seven trauma care regions; each incorporated as a 501c-3 organization which contracts with the MSDH to administer the plan within their respective region. The State Trauma Plan includes the seven regional plans, and allows for transfer protocols between trauma facilities and for trauma patients to be transported to the "most appropriate" trauma facility for their injuries.

To increase participation in the Trauma Care System, the Mississippi Legislature enacted legislation in 2008 which required MSDH to develop regulations to require all licensed acute care hospitals to participate in the Mississippi Trauma Care System ("Play or Pay"). Hospitals must participate at a level commensurate with their capabilities, or pay a non-participation fee. Each hospital's capability to participate in the Trauma Care System is reviewed annually by the respective Trauma Care Region and the Mississippi State Department of Health, which determines the appropriate level of participation and any fee.

Trauma facility designation levels set specific criteria and standards of care that guide hospital and emergency personnel in determining the level of care a trauma victim needs, and whether that hospital can care for the patient or transfer the patient to a Trauma Center that can administer more definitive care.

Level I Trauma Centers must have a full range of trauma capabilities, including an emergency department, a full-service surgical suite, intensive care unit, and diagnostic imaging. Level I centers must have a residency program, ongoing trauma research, and provide 24-hour trauma service. These hospitals provide a variety of other services to comprehensively care for both trauma patients and medical patients. Level I Trauma Centers act as referral facilities for Level II, III, and IV Trauma Centers. The University of Mississippi Medical Center (UMMC) in Jackson is the only Level 1 facility in the state. Two Level I Trauma Centers border the northern and southeastern part of the state and are located in Tennessee and Alabama. Additionally, a "stand-alone: Tertiary Pediatric Trauma Center located in Tennessee participates in the system.

Level II Trauma Centers must be able to provide comprehensive care to the severely injured patient. These facilities must have a full range of trauma capabilities, including an emergency department, a full service surgical suite, an intensive care unit, and diagnostic imaging. Level II Trauma Centers act as referral facilities for Level III and IV Trauma Centers.

Level III Trauma Centers must offer general surgical and orthopedic services and have the ability to manage the initial care of multi-system trauma–patients. Transfer–protocols must be in place with Level I and II Trauma Centers for patients that exceed the Level III Trauma Center's resources.

Level IV Trauma Centers provide initial evaluation and assessment of injured patients. Most patients will require transfer to facilities with more resources dedicated to providing optimal care for the injured patients. Level IV Trauma Centers must have transfer protocols in place with Level I, II, and III Trauma Centers.

119.02 Protocols

The Trauma Care System has developed uniform trauma activation criteria for all hospitals participating in the system to insure that patients receive appropriate care, regardless of locale. In addition, the hospital activation criteria has been combined with EMS destination guidelines, using the Center for Disease Control (CDC) developed Field Triage Decision Scheme, to have a single document that identifies the severity of the patient's injuries and the appropriate destination for the patient.

119.03 Advisory Group

In accordance with Miss. Code Ann. § 41-59-7, a committee of the Emergency Medical Services Advisory Council (EMSAC) is created, formed from the membership of the council. This committee is designated as the Mississippi Trauma Advisory Committee (MTAC), and acts as the advisory body for trauma care system development, and provides technical support to the Department in all areas of system design, clinical standards, data collection, quality improvement, funding, and evaluation of the trauma care system.

119.04 Performance Improvement

A systems approach to trauma care provides the best means to protect the public from pre-mature death and prolonged disability. The development of a statewide system of care for the injured must include a mechanism to monitor, measure, assess, and improve the processes and outcome of care. The process must be a continuous, multidisciplinary effort to reduce inappropriate variation in the care of trauma patients, and improve the effectiveness of the system and its components, including pre-hospital care (communication, dispatch, medical control, triage, and transport), hospital care, inter-facility management, rehabilitative care, and mass casualty disaster response.

Statewide performance improvement (PI) consists of multiple layers of continuous monitoring and evaluation of treatment processes to identify opportunities to optimize care and improve outcomes. The continuous cycle of evaluation extends from the PI programs of EMS providers and hospitals to review committees established at the regional and state levels.

The State Trauma PI Committee is appointed by the Director of Health Protection, MSDH. The committee is independent from the MTAC and EMSAC, and membership is comprised of the following representatives:

- Trauma Surgeon
- Emergency Room Physician
- State EMS PI Committee

- Trauma Registry Committee
- One representative from each Trauma Care Region
- Nursing representative from each Trauma Center level
- Tertiary Pediatric Trauma Center
- MTAC
- Trauma Medical Directors from each Level I Trauma Center

Subject Matter Experts (SME) participate in committee activities appropriate to their expertise. The MSDH Division of Trauma provides administrative support to the PI Committee and all meetings of the Committee, including any sub-committee meetings, are by invitation only, and are not open to the public.

119.05 Data System

There are four objectives of the trauma registry: performance improvement, enhanced hospital operations, injury prevention, and medical research. In July 2006, the Mississippi State Department of Health deployed "Collector" Trauma Registry software to all hospitals that participated in the Mississippi Trauma Care System. Today, every Mississippi licensed acute care facility (hospital) having an organized emergency service or department uses the Collector software to submit their data to the State Trauma Registry.

Collector is a trauma registry system that helps users meet changing requirements of collection and evaluation of trauma data for quality assurance, accreditation, management, prevention and research. Collector is a complete data management and report generating package which includes a user friendly data entry and verification system, querying capabilities and integration with expert coding software. Collector offers coding, database and analysis capabilities.

In addition to its use as the trauma registry, Collector is also used as the state's burn registry the registry for Traumatic Brain and Spinal Cord Injuries (TBI/SCI).

120 STEMI System of Care

ST-elevation myocardial infarction (STEMI) is a significant public health problem and carries a high risk of death and disability. The American Heart Association (AHA) estimates that as many as 400,000 people will suffer from a STEMI heart attack each year in the United States. Mississippi currently leads the nation in mortality and morbidity from cardiovascular disease.

STEMI patients should be recognized as quickly as possible to identify those eligible for thrombolytic or primary PCI therapy. Research has shown that both morbidity and mortality can be reduced by the approach of rapid interventional reperfusion within ninety (90) minutes of hospital arrival. Additional research has demonstrated that in-the-field recognition by pre-hospital providers utilizing 12-lead ECG, coupled with pre-hospital notification of the receiving facilities, can further reduce time to reperfusion, resulting in improved outcomes.

120.01 Organization

The STEMI System of Care is a voluntary system comprised of a number of separate components, which are organized and work together, as a system. The individual components and elements are described below:

- STEMI Regions – This component facilitates system organization, coordination, and education requirements for both practitioners and the public. Each STEMI Region (North, Central, and South) will have a regional STEMI Coordinator, who will schedule and facilitate quarterly regional meetings.
- Pre-Hospital Component – EMS units are an integral part of the STEMI System. All EMTs and Paramedics need to have a basic knowledge and awareness of the STEMI System elements and system function. Specifically, this knowledge refers to entry criteria (identification of a STEMI), triage and destination guidelines, and communication procedures. On-line and Off-line medical control physicians will also need to be involved with the STEMI System elements and system function.
- Hospital Component – Hospitals may participate in the STEMI System on a voluntary basis, but must comply with and maintain nationally accepted criteria by December 30, 2012.
- Program oversight is provided by the Mississippi State Department of Health, Bureau of EMS.

Map 5-2 identifies those hospitals participating in the STEMI System.

120.02 Protocols

Standard treatment protocols for both PCI centers and Non-PCI centers have been developed and published by the Mississippi Healthcare Alliance (MHCA), the practitioners' organization which initiated the development of the system of care. The current protocols may be found on the MHCA website at: http://mshealthcarealliance.org/.

120.03 Advisory Group

The Mississippi Healthcare Alliance (MHCA) has established a STEMI System Advisory Committee comprised of the following members:

- Cardiology (chair)
- Emergency Medicine Physician (co-chair)
- Cardiologist
- Emergency Medicine Nurse
- Hospital Administration
- STEMI Nursing
- STEMI Registry
- EMS provider (Paramedic)
- EMS Administration

120.04 Performance Improvement

Statewide performance improvement (PI) consists of multiple layers of continuous monitoring and evaluation of treatment processes to identify opportunities to optimize care and improve outcomes. The continuous cycle of evaluation extends from the PI programs of EMS providers and hospitals to review committees established at the regional and state levels.

The STEMI PI Committee is appointed by the Mississippi Healthcare Alliance (MHCA) and membership is comprised of the following representatives:

- Cardiology (chair)
- Emergency Medicine Physician (co-chair)
- Cardiologist (one from each region)
- Emergency Medicine Physician (one from each region)
- Representative from each PCI Center
- Non-PCI hospital representative (one from each region)
- EMS representative (one from each region)

Subject Matter Experts (SME) participate in committee activities appropriate to their expertise. The MSDH Division of Trauma provides administrative support to the PI Committee and all meetings of the Committee, including any sub-committee meetings, are by invitation only, and are not open to the public.

120.05 Data System

The data system for the STEMI System of Care is the ACTION Registry-GWTG (Get With The Guidelines). The ACTION Registry-GWTG is a risk-adjusted, outcomes-based quality improvement program that focuses exclusively on high-risk STEMI/NSTEMI patients. It helps hospitals apply American College of Cardiology (ACC) and American Heart Association (AHA) clinical guideline recommendations in their facilities, and provides invaluable tools to measure care and achieve quality improvement goals. Use of the ACTION Registry-GWTG is a requirement for participation in the STEMI System of Care.

121 Acute Ischemic Stroke System of Care

In 2007, Mississippi had an estimated population of 2.9 million people, with over 1.6 million living in a rural community (Rural Assistance Center, 2007). Stroke is the fifth leading cause of death in Mississippi, accounting for 5.3% of all deaths (Mississippi Statistically Automated Health Resource System [MSTAHRS] Report, 2010). Much of this death is premature: nearly one in five of all stroke deaths occur in Mississippians under 65 years of age. Mississippi's stroke mortality rate is the fifth highest in the nation, ranking behind Arkansas, South Carolina, Tennessee, and Alabama. Stroke death rates in Mississippi are falling slightly faster than the national average, but remain 23.8% higher than the overall U.S. rate. Therefore, it is critical that stroke care in Mississippi be a central focus for healthcare leaders.

In Mississippi, most of the specialty physicians, like neurologists, are located in select large medical centers; therefore, access to a stroke specialist is a primary concern in stroke care. Unlike trauma and STEMI systems of care, where it is essential to get the patient to a specialty facility in the shortest amount of time, stroke care can be initiated at the rural facility in conjunction with input from a practitioner trained in stroke care, either by telephone or

telemedicine. A careful patient history and examination, laboratory analysis, and a head CT can be done at "Stroke-Ready" hospitals, allowing the timely decision to treat the patient with thrombolytic therapy at that hospital before transfer to a "Stroke Center" ("drip-n-ship") if needed for Neurological, Neurosurgical, or Neuro-interventional support.

121.01 Organization

The Stroke System of Care is a voluntary system comprised of a number of separate components, which are organized and work together, as a system. The individual components and elements are described below:

- Stroke Regions – This component facilitates system organization, coordination, and education requirements for both practitioners and the public. Each Stroke Region (North, Central, and South; same as the STEMI Regions) will have a regional Coordinator, who will schedule and facilitate quarterly regional meetings.
- Pre-Hospital Component – EMS units are an integral part of the STEMI System. All EMTs and Paramedics need to have a basic knowledge and awareness of the Stroke System elements and system function. Specifically, this knowledge refers to entry criteria (identification of an acute ischemic stroke), triage and destination guidelines, and communication procedures. On-line and Off-line medical control physicians will also need to be involved with the Stroke System elements and system function.
- Hospital Component – Hospitals may participate in the Stroke System on a voluntary basis.
- Program oversight is provided by the Mississippi State Department of Health, Bureau of EMS.

121.02 Protocols

Standard treatment protocols for Stroke Ready and Non-Stroke hospitals have been developed and published by the Mississippi Healthcare Alliance (MHCA), the practitioners' organization which initiated the development of the system of care. The current protocols may be found on the MHCA website at: http://mshealthcarealliance.org/.

The protocols are centered on the "drip-n-ship" model, where outlying hospitals identify the presence of an acute ischemic stroke through a head CT, and initiate thrombolytic therapy (tPA-Alteplase) prior to transferring the patient to a Stroke Center. EMS protocols include the use of the Cincinnati Stroke Scale to identify potential stroke victims, and the delivery to a Stroke Ready hospital for diagnosis.

121.03 Advisory Group

The Mississippi Healthcare Alliance (MHCA) has established a STEMI System Advisory Committee comprised of the following members:

- Neurologist (chair)
- Emergency Medicine Physician
- Emergency Medicine Nurse
- Hospital Administration
- Neurology/Interventional Neurology/Interventional Radiology/Neurosurgery
- Stroke Nursing
- Stroke Registry

- EMS provider (Paramedic)
- EMS Administration

121.04 Performance Improvement

Statewide performance improvement (PI) consists of multiple layers of continuous monitoring and evaluation of treatment processes to identify opportunities to optimize care and improve outcomes. The continuous cycle of evaluation extends from the PI programs of EMS providers and hospitals to review committees established at the regional and state levels.

The Stroke PI Committee is appointed by the Mississippi Healthcare Alliance (MHCA) and membership is comprised of the following representatives:

- Neurologist (chair)
- Administrative or clinical representative from each Stroke Center
- Representatives from Stroke Ready hospitals (number to be determined by the committee)
- EMS representatives from hospital-based EMS, private EMS, and public/government EMS

Subject Matter Experts (SME) participate in committee activities appropriate to their expertise. The MSDH Division of Trauma provides administrative support to the PI Committee and all meetings of the Committee, including any sub-committee meetings, are by invitation only, and are not open to the public.

121.05 Data System

The American Heart Association/American Stroke Association GWTG (Get With The Guidelines) – Stroke is a performance improvement program for hospitals that uses a stroke registry to support its aims. GWTG-Stroke collects patient level data on characteristics, diagnostic testing, treatments, adherence to quality measures, and in-hospital outcomes in patients hospitalized with stroke and transient ischemic attack (TIA). Collection of comprehensive, continuous stroke data supports data analysis and the development of interventions to improve stroke care.

The primary goal of GWTG-Stroke program is to improve the quality of care and outcomes for patients hospitalized with stroke and TIA. The GWTG-Stroke registry helps achieve this goal in a variety of ways, including:

- Enabling high caliber stroke research;
- Promoting stroke center designation;
- Supporting hospital level quality improvement; and
- Driving the creation of regional stroke system

Map 5-3
Mississippi Trauma Care Regions